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GENERAL STUDIES (TEST CODE : 1834)

Name of Candidate	SHAH MARGI		
Medium Eng./Hindi	ENGLISH	Registration Number	141788
Center		Date	5/9/22

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
7	10	
8	10	
9	10	
10	10	
11	15	
12	15	
13	15	
14	15	
15	15	
16	15	
17	15	
18	15	
19	15	
20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
   उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न–पत्र कोड, विद्यार्थी क्रमांक आदि)।
2. There are **TWENTY** questions printed in **ENGLISH & HINDI**
   इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
3. **All questions are compulsory.**
   सभी प्रश्न अनिवार्य हैं।
4. The number of marks carried by a question/part is indicated against it.
   प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other that the authorized one.
   प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न–सह–उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
6. Word limit in questions, if specified, should be adhered to.
   प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
   उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

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EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

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All the Best

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(इस भाग में कुछ ना लिखें)

1. The Sunga dynasty contributed significantly to the cultural and social development in ancient India. Discuss. **(150 words) 10**
प्राचीन भारत में सांस्कृतिक और सामाजिक विकास में शुंग वंश का महत्वपूर्ण योगदान रहा है। चर्चा कीजिए।

Sunga dynasty replaced the last mauryan King Brihadratha with the arrival of Pushyamitra Sunga.

• Contribution to social development :-

① Revival of Hinduism :- Against the rising tide of Buddhism & Jainism.

eg. Performance of Vedic sacrifices like Ashwamedha & Rajasuya.

② Change in ruling dynasty :- Replaced Kshatriyas by Brahmins for the first time

• Contribution to cultural development :-

① Architectural strides :- Renovation of

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Sanchi & Bharhut stupa & its expansion during reign of Pushyamitra Shunga.

② Literature :- They patronized Patanjali & Kalidasa eg. Malvikagnimitram play written during the period.

③ Sculpture :- Of Yakshas & Yakshinis built in regions of Gwalior to Mathura.

④ Pillar inscriptions :- At Vidisha in Brahmi script & Prakrit language.

Sunga sept dynasty thus contributed to art & architectural development, further being replaced by Vasudev Kanva (Kanva dynasty).

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2. Discuss the role of foreign nationals in the Indian freedom struggle during the Gandhian phase. **(150 words) 10**

भारतीय स्वतंत्रता संघर्ष के गांधीवादी चरण के दौरान विदेशी नागरिकों की भूमिका की विवेचना कीजिए।

Indian freedom struggle & the subsequent independence was the result of effort of both Indians & foreigners.

- Role of foreign nationals during Gandhian phase :-

① Alternative forms of struggle :- Annie Beasant formed Home Rule league (1916) on line of Irish Home Rule league.

② Upliftment of women :- Margaret Elizabeth (Sister Nivedita) joined the Ramkrishna Mission & helped during Bengal famine.

③ Indian cause promotion abroad :- Bhikaji Cama unfurled the national flag on

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the soil of Germany.

④ **Advancement of social reforms :-** Charles Freer Andrews who worked to fight untouchability & given title 'Dinbandhu' by Gandhiji for his compassion towards poor.

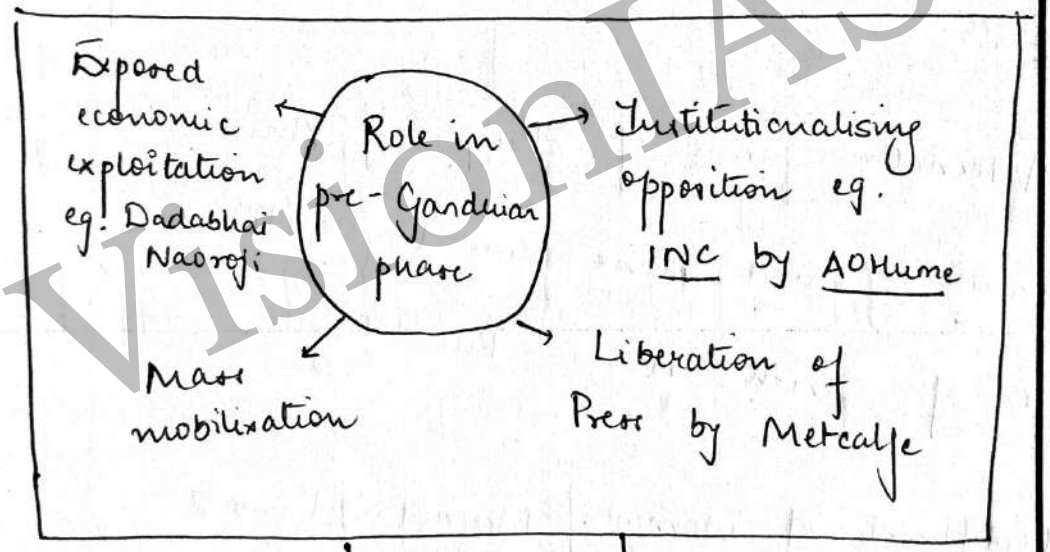

Fig 1.0

Thus, foreign nationals followed values of justice & equality to advance the Indian freedom struggle.

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3. Provide an account of the contributions of Ram Manohar Lohia during the Indian freedom struggle and in post-independence India. **(150 words) 10**
भारतीय स्वतंत्रता संघर्ष के दौरान एवं स्वातंत्र्योत्तर भारत में राम मनोहर लोहिया के योगदान का विवरण प्रस्तुत कीजिए।

Ram Manohar Lohia was a prominent figure in socialist politics & the Indian independent movement.

• Contributions during freedom struggle :-

① Socialist Party :- Founded Congress Socialist Party in 1934 to promote 'socialism' as an ideology.

② World War II :- Opposed Indian participation on the side of Great Britain.

③ Quit India movement :- Was arrested for mobilising support for Quit India movement alongwith other CSP leaders.

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• **Contribution post-independence :-**

① **Praja Socialist Party :-** Formed in 1952 alongwith members like Jayprakash Narayan.

② **Socio-political reforms :-** Advocated for abolition of caste system, promotion of Hindi as a national language, reservation of 60% for women, SC & STs.

③ **Approach to reforms :-** Militant approach by undertaking strikes, agitations, civil disobedience, etc. for protection of civil liberties.

However, later it adopted an anti-Congress agenda narrowing its vision.

Thus, Ram Manohar Lohia actively contributed in formation of a socialist goals-driven economy, post-independence.

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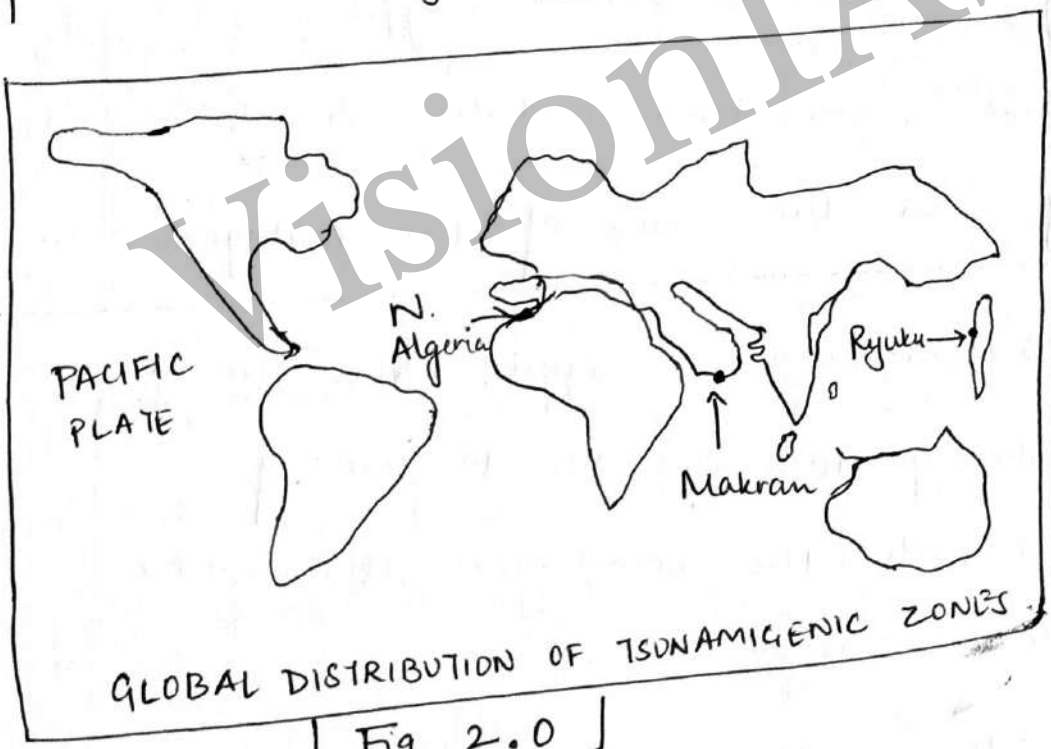
4. What do you understand by tsunamigenic zones? Giving an account of their global distribution, explain the propagation of tsunamis. **(150 words) 10**
सुनामी जनक क्षेत्रों से आप क्या समझते हैं? उनके वैश्विक वितरण का विवरण देते हुए, सुनामी के संचरण की व्याख्या कीजिए।

Tsunamigenic zones are danger zones close to a convergent boundary of an oceanic plate that has the potential to bring tsunamic earthquakes.



GLOBAL DISTRIBUTION OF TSUNAMIGENIC ZONES

Fig 2.0

Recently, Makran subduction zone in the Indian ocean is threatened due to combination of two tsunamigenic zones.

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• Propogation of tsunami:-

① Tsunami waves are created during an earthquake in the ocean due to movement of tectonic plates.

② This physical shift of place forces water above the average sea level which is then transferred into horizontal energy.

③ These waves then radiate outwards away from the focus of the earthquake.

④ On reaching the shore, their height dramatically increases due to loss of contact with the ocean floor that causes maximum damage.

Thus, efficient early warning systems like IFLOWS (Mumbai) should be developed to reduce loss of life & property.

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5. What are atmospheric lakes? Highlight their characteristics. (150 words) 10

वायुमंडलीय झीलें क्या हैं? उनकी विशेषताओं पर प्रकाश डालिए।

Atmospheric lakes are a unique kind of storm discovered by scientists, that is produced by dense water vapour concentration capable to produce rain.

• Characteristics :-

① Formed in an area of slow-moving winds or winds with negligible speed.

② Created majorly over Western Indian Ocean.

③ Instead of being formed by a vortex, it contains dense water vapour concentration.

④ Found in equatorial locations. eg. 17 of the atmospheric lakes were within

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10° of equator.

⑤ They turn into a tropical cyclone in tropical region.

⑥ They can direct rainfall towards the Eastern African coast, contemporarily a dry area.

⑦ It can also be formed from atmospheric rivers (long bands of water vapour in atmosphere) in the Indo-Pacific region.

Thus, such lakes in the wake of climate change can prove helpful to bring rains to drought-prone areas & thus, greater research on it is required.

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6. What are polymetallic nodules? Highlight their geographical distribution and state their significance. **(150 words) 10**

पॉलीमेटेलिक नोड्यूल्स (बहुधात्विक ग्रंथियां) क्या हैं? उनके भौगोलिक वितरण पर प्रकाश डालिए और उनका महत्व बताइए।

Polymetallic nodules are potato-like rounded accretions found at deep ocean bottom, containing manganese, nickel, copper, cobalt, lead, molybdenum, cadmium, etc

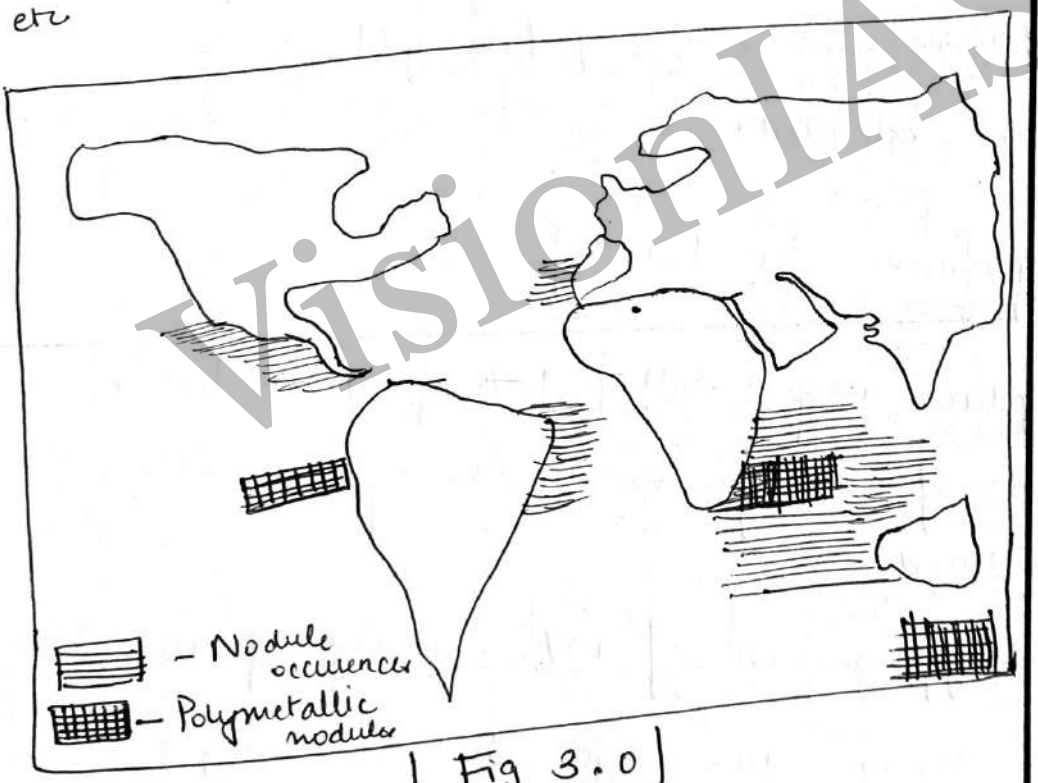

Fig 3.0

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• **Significance of polymetallic nodules :-**

① **Rare Earth Elements :-** Contained in it important for high-tech industries.

② **High copper content :-** About 20% of the global land-based reserve.

③ **Valuable minerals :-** like gold, silver can be extracted.

• **Significance for India :-**

① **Reduce import bill :-** ~~10% of reserve~~ India's imports of strategic metals like copper, cobalt can be reduced.

② **Energy generation :-** 10% recovery of that large reserve can fulfill India's energy requirement for next 100 years.

Thus, India's launch of Samudrayaan under Deep Ocean Mission will allow full development of 'Blue Economy.'

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7. What are technical textiles? In view of their significance, discuss the steps taken by the government to promote them in India. **(150 words) 10**

तकनीकी वस्त्र क्या होते हैं? उनके महत्व को देखते हुए भारत में उन्हें बढ़ावा देने के लिए सरकार द्वारा उठाए गए कदमों पर चर्चा कीजिए।

Technical Textiles refer to functional fabrics that can be used in automobiles, space, healthcare, agriculture, etc. eg. Mobiltech - airplane seats, airbags, etc.

• Significance of technical textiles:-

① Doubling farmers' income :- Use of agrotech textiles like in horticulture, fishery to improve plant growth, maintain soil fertility, etc.

② Economic growth :- India currently has 6% of global share in technical textiles which can be improved.

③ Exports :- It can improve India's share in textile exports overtaking Bangladesh & Vietnam.

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• **Steps taken by government :-**

① National Technical Textiles Mission :- To make India the 'Global Leader' in technical textiles & improving its market share.

Components of NTTM

- Research & Development
- Market development
- Export promotion
- Education & skill training

Fig . 0

② Production Linked Incentive for Textiles sector

③ 100% FDI under automatic route allowed bringing companies like Johnson & Johnson, etc

④ Amended Technology Upgradation Fund scheme to promote investments.

Technical textiles can play a significant role in increasing textile contribution to GDP from 2% to over 5% & achieve $5 tn economy by 2024.

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8. Discuss the challenges that internal migration creates for urban governance in India. Also, suggest measures to address the same. **(150 words) 10**

भारत में आंतरिक प्रवासन द्वारा शहरी शासन के समक्ष उत्पन्न चुनौतियों की विवेचना कीजिए। साथ ही, इससे निपटने के उपायों का भी सुझाव दीजिए।

Internal migration in India is highest from rural-to-rural, followed by rural-urban with the most migrations for marriage. (Census 2011)

- Challenges due to internal migration :-

① Resource crunch :- On limited resources like water, housing, etc. resulting into resource conflict.

② Traffic congestion :- Due to high population hampering urban connectivity.

③ High pollution :- The high population also ~~bring~~ creates greater plastic pollution,

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water pollution (through incessant use of urban lakes) & air pollution (use of private transport).

④ Urban heat islands :- Created due to excessive concretization & climate change-induced global warming.

• Measures to address this :-

① Rural-urban connectivity :- Should be enhanced. eg. RURBAN Mission

② Creation of basic facilities :- Water availability, 24×7 electricity, quality school education to reduce push factors. eg. River interlinking to reduce water stress, Smart classes for quality education.

③ Diversification of economic opportunities :- Fillip to rural MSMEs, development of livestock & animal husbandry, etc.

Thus, these challenges should be aptly addressed to achieve sustainable cities (SDG 11).

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9. Discuss the various opportunities and challenges posed by globalization on working women in India. **(150 words) 10**

भारत में कामकाजी महिलाओं के लिए वैश्वीकरण द्वारा उत्पन्न विभिन्न अवसरों और चुनौतियों पर चर्चा कीजिए।

'Time to Care' Report by Oxfam International indicates that women spend 38% more time than men in household & care work.

• Opportunities by globalization :-

① Financial autonomy :- Due to availibility of job opportunities.

② Decision-making :- Working women now play a significant role in decision-making regarding their reproductive rights, financial transactions, etc.

③ Commodification of housework :- Has allowed division of work between husband & wife.

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• Challenges by globalization :-

① Dual burden :- Rise of 'Work From Home' has put dual burden on women of both home & work.

② Dual violence :- Working women may ~~abus~~ face abuse at both public & private places. eg. Sexual harassment at workplace & domestic violence at home.

③ Glass ceiling :- Women face limited growth opportunities and recently, 'glass cliff' is seen where women are raised to leadership positions during crisis & the later failure blamed upon them.

④ Pink collarisation of jobs :- Restricting women to secondary labor market (Kanza Ahmed) & low paying jobs like nursing, receptionist, etc.

Globalisation has been a 'double-edged sword' on working women allowing them to break patriarchial chains which practising patriarchal bargain

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10. Discuss the rationale behind anti-conversion laws in India. Also, state the concerns that have been raised with regard to these laws.

(150 words) 10

भारत में धर्मांतरण विरोधी कानूनों के पीछे निहित तर्कों पर चर्चा कीजिए। साथ ही, इन कानूनों के संबंध में व्यक्त चिंताओं का भी उल्लेख कीजिए।

Uttar Pradesh recently passed an anti-conversion law to curb the rising instances of 'Love jihad' where a certain community aims to forcefully convert others to their religion.

- Rationale behind the laws :-

① Curb forced conversions :- As it goes against Article 25 of the Constitution.

② Problem of inducement or allurement :- Via money, education, healthcare facilities, etc.

- Concerns raised against the laws :-

① Article 21 :- SC confirmed the 'Right to Marry' according to one's own choice as (Hadiya case) a fundamental right.

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② Uncertain & Vague terms :- Like the words 'fraud', 'allurement', presents serious avenue for misuse.

③ Antithetical to Secularism :- May pose a threat to India's secular fabric & international perception of India's legal system.

④ ~~Ag~~ Doctrine of Chilling Effect :- Such laws must restrict exercise of freedom due to fear of punishment.

⑤ Against Supreme Court judgement :- SC said that individual has autonomy to take vital decisions.

Thus, such laws must strike a balance between fundamental rights & malafide conversions to protect the secular fabric of India.

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11. Central Asian contacts had a profound political and cultural impact on India in ancient times. Discuss. **(250 words) 15**

प्राचीन काल में मध्य एशियाई संपर्कों का भारत पर गहरा राजनीतिक और सांस्कृतिक प्रभाव पड़ा है। विवेचना कीजिए।

A series of invasions beginning since 200 BCE led to the arrival of Bactrians, and later Scythians, Parthians, ~~[illegible]~~ & Hunas into Indian land.

- Impact on political system :-

① Maintained coins :- Indo-Greeks were the first to issue coins of gold, silver, copper, nickel.

② Administration :- Indo-Greeks introduced military governorship & called governors as 'Satrapas'. eg. Kushanas 'Satrap System'

③ Introduction of horses :- Shakas & Hunas popularised the use of riding horses & introduced better cavalry.

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④ Divine kingship :- They propogated the idea of kings having divine origin.

eg. Kushanas – 'sons of God'

⑤ Cultural impact on India :-

① Society :- The arrival of foreign rulers led to the inclusion of multiple castes & subcastes.

↳ Rulers acclaimed themselves to be "Kshatriyas" & were completely Indianised.

② Religion :- Rulers from Central Asia converted to Vaishnavism, Buddhism, etc.

eg. Images of Shiva & Buddha on Kushana coins.

↳ Origin of Mahayana Buddhism owed to 4th Buddhist Council under Kanishka.

③ Art & Literature :-

↳ Development of Gandhara school of Art under Kushana patronage.

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↳ Earliest specimen of Kavya style found in Shaka ruler Rudradaman's inscription.

④ Architecture :-

↳ It was marked by construction of brick walls & use of burnt bricks for both roofing & flooring.

⑤ Trade :-

↳ They promoted trade between India & Central Asia with huge imports of gold.

↳ Silk Route controlled by Kushanas.

↳ Fillip to irrigation in agricultural practices by Kushanas.

Thus, this age was a period of largescale assimilation of foreign rulers in Indian society alongwith some significant contributions. eg. Shaka - Samvat system

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12. Governance, during the British rule, was a means of exploitation of India rather than a vehicle of public welfare. Discuss. **(250 words) 15**

ब्रिटिश राज के दौरान शासन (गवर्नेंस), लोक कल्याण के एक माध्यम के बजाय भारत के शोषण का एक साधन था। विवेचना कीजिए।

British arrival in India & its consequent political rule from merely trading functions, led to a series of governance policies that inhibited India's development.

- Governance – means of exploitation :-

① Curbing freedom :- British Acts like Vernacular Press Act, 1878 differentially targeted Indians' freedom of speech & press.

② Economic Exploitation :- The economic policies of British such as duty free imports & free one-way trade led to 'Drain of Wealth'

③ Industrial Growth :- Was limited due to excessive restrictions on Indian industries.

eg. Factory Acts, 1881 & 1891 only applied to Indian industries

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(4) **Development of communication tools :-** Was more to enhance the connectivity with hinterland, for seamless trade.

(5) **Education policy :-** The literacy rate of India during British rule was 13%, showing the poor state & access to education.

(6) **Healthcare :-** Famines of Bengal indicate the poor healthcare system.

(7) **Social structure :-** After 1857 revolt, British stopped interference in Indian social structure via any reforms & thus stagnated the Indian society.

(8) **Commercialization of Agriculture :-** Focus on cash crops from food crops led to impoverishment of farmers & made them prey to moneylenders. eg. Compulsory Indigo cultivation.

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margin (इस भाग में कुछ ना लिखें)

• Governance - led to public welfare :-

① Connectivity measures :- Like telegraph, post, railways, etc helped the exchange of nationalist ideas. eg. Messages sent via telegraph about any exploitation.

② Education :- Western Education helped create an intellectual middle class who fought for the values of liberty & equality.

③ Economic policies :- Were used by leaders like Dadabhai Naoroji, RC Dutt to expose the exploitative nature of British rule.

④ Land laws & agriculture :- It helped channelise the tenants' & farmers' anger towards the freedom struggle. eg. Indigo Revolt, 1860

Thus, despite the rationale behind governance was to exploit India, it also contributed to greater awakening & provided a stimulus for the freedom struggle.

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(इस भाग में कुछ ना लिखें)

13. Discuss how India successfully dealt with the sensitive issue of language, which had the potential of threatening national unity in the post-independence period. **(250 words) 15**

चर्चा कीजिए कि भारत ने भाषा के संवेदनशील मुद्दे का, जिसमें स्वातंत्र्योत्तर अवधि में राष्ट्रीय एकता के समक्ष खतरा उत्पन्न करने की क्षमता थी, किस प्रकार सफलतापूर्वक समाधान किया।

India has 4th highest number of languages globally with over 50 languages and more than 500 dialects, however this did not divide but rather united India.

- Successful dealing of language issue :-

① One language, one state :- Was not allowed by our leaders like Jawaharlal Nehru, Sardar Patel as it would fragment India.

② Freedom for state language :- States were given the autonomy to choose any language to be state's official language, given it must be spoken by significant

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number of people.

③ Eighth Schedule :- Formally recognized 22 languages which provided them the recognition & pride to its speakers.

④ Use of English :- Allowed in multiple states like Arunachal Pradesh, Nagaland, despite being out of 8th Schedule.

⑤ No imposition of Hindi :- Southern states' opinion was considered and thus, Hindi was neither made compulsory nor made a national language.

⑥ Union of India :- Free movement & residence (Article 19) allowed for development of a multilingual population due to migration related to work, education, etc.

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⑦ **All-India services :-** Created under Article 312 also provided for greater intermingling of people from diverse linguistic background.

• **Persisting challenges :-**

① **3-language formula :-** National Education Policy, 2020 was vehemently opposed by Southern States for provision of 'Hindi, State language & English' to be taught in schools.

② **Article 350 :-** Calls for development of Hindi language & making it a lingua franca.

Despite these issues, India being a multicultural & multilinguistic state has found its true representation of 'Unity in Diversity.'

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14. Bring out the factors, which led to decolonisation after the Second World War. Also, discuss the role played by India in this regard. **(250 words) 15**

उन कारकों का उल्लेख कीजिए, जिनके चलते द्वितीय विश्व युद्ध के बाद विउपनिवेशीकरण हुआ। साथ ही, इस संबंध में भारत द्वारा निभाई गई भूमिका की भी विवेचना कीजिए।

The end of World War II in 1942 ushered in a wave of decolonialization after the enough destruction & loss of life & property.

• Factors for decolonization :-

① Economic losses :- The colonial countries like Britain, France faced heavy economic losses with no ability to maintain control over their colonies. eg. Britain paid off its final debt to USA in 2010.

② New superpowers :- USA & USSR emerged as two new superpowers & forced the erstwhile colonizers to retire.

③ Democratic rule :- Values of democracy, equality & liberty had been mainstreamed

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due to multiple freedom struggles globally.
eg. French Revolution

④ Debunking white supremacy:- The loss of Britain against Japan, an Asian power debunked the myth of the white supremacy & provided confidence to colonized states.

⑤ Freedom struggles over the world :- Struggles in Egypt, Italy, etc. motivated multiple other nations to overthrow the colonial rule.

• Role played by India :-

① Supported cause of Independence :- In multiple African colonies of Britain, by publishing about their cause, promoting discussions, etc.

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② Non-Alignment policy :- India's NAM allowed countries to retain their sovereignty & form a new bloc i.e the 3rd World countries.

③ Adoption of mixed economy :- Provided a new alternative to newly independent countries for not being sucked into another power struggle like Cold War

Thus, Second World War exposed the fact that absolute control over other country was impossible to sustain & the rule by democracy is beneficial to the world.

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15. What are Marine Heat Waves (MHW)? Identify the causes of their formation and discuss their consequences for India. **(250 words) 15**

समुद्री ग्रीष्म लहरें (MHW) क्या हैं? उनके निर्माण के कारणों की पहचान कीजिए और भारत के लिए उनके परिणामों की विवेचना कीजिए।

Western Indian Ocean has seen a four-fold rise while the Bay of Bengal has seen a 2-3 fold rise in events of marine heatwaves.

Marine heatwaves are excessive rise in sea temperature over a varying threshold for 5 consecutive days.

• Features of MHW :-

↳ They can occur in both summer & winter.

↳ They are formed across all latitudes & in all the oceans.

↳ They may affect small areas of coastline or span multiple consecutive areas.

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• **Causes of formation:-**

① **Ocean warming:-** About 90% of the warming due to GHG emissions is absorbed by oceans.

② **Sea temperature rise:-** 0.6°C rise in sea surface temperature.

③ **Climate change:-** Has caused unusual weather patterns & change in rainfall frequency.

④ **Ocean currents:-** Can build up areas of warm water & create air-sea heat flux.

• **Causes of formation over Indian ocean:-**

① El-Nino events & warming of Indian ocean.

② Locally, rise in solar radiations & decline

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in evaporation cooling.

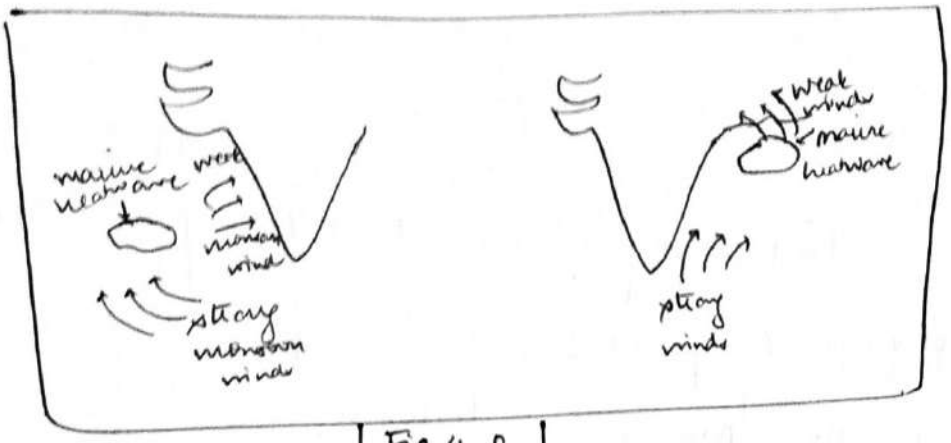

Fig 4.0

- **Consequences for India :-**

① **Extreme weather event :-** Cyclones & Tropical storms in Bay of Bengal & Arabian sea may increase.

② **Threat to aquatic biodiversity :-** The ones with low thermal tolerance.

③ **Increased ocean stressors :-** Like acidification, deoxygenation, etc., also threatening water stress.

Thus, immediate climate action (SDG 13) for adaptation & mitigation is the need of the hour.

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16. What are the geo-climatic conditions required for oil palm cultivation? Do you agree with the view that India should promote its large-scale cultivation to reduce import dependency? **(250 words) 15**

ऑयल पाम (ताड़ के तेल) की खेती के लिए आवश्यक भू-जलवायविक दशाएं क्या हैं? क्या आप इस विचार से सहमत हैं कि आयात निर्भरता कम करने के लिए भारत को इसकी बड़े पैमाने पर खेती को बढ़ावा देना चाहिए?

India imports around 70% of its oilseeds & palm oil needs from countries like Malaysia, Indonesia leading to huge import bills of over $10 bn.

- Geoclimatic conditions for oilpalm :-

① Temperature :- Around 21° – 32° C

② Rainfall :- 200 cm – 400 cm

③ Humidity :- 75 – 100% relative humidity

④ Altitude :- 400 – 900 metres

⑤ Soil :- Moist & loamy soil with good water permeability.

⑥ Irrigation :- It needs around 150 litres

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of water / day.

Indian oil palm imports cover 75% of the total edible oil imports making it imperative to improve domestic cultivation.

- ~~Should~~ India to promote large scale cultivation :-

① Reduce import bill :- India spends $10 bn every year for oilpalm imports.

② Achieve self-reliance :- To shield itself from faults in supply chain due to labor crisis of Malaysia, etc.

③ Cater to rising demand :- Shift in diets of middle class with high demand of palm oil from earlier groundnut / mustard oil.

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• Challenges in promoting cultivation :-

① Large land tracts required while our average landholding size is 1.09 hectares (Agri. census 2015-16).

② Limited temperature range making it unsuitable for India's sunny weather.

③ High water demand increasing the water stress and depleting groundwater table.

④ Rainfall as high as 250 cm is only restricted to a few areas making its cultivation difficult.

However, the need of the hour is to reduce imports & balance it with domestic cultivation by initiatives like National Edible Oil & Oil Palm Mission.

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17. In view of the changes witnessed in the state of Himalayan cryosphere, discuss the implications for India's water security. **(250 words) 15**

हिमालयी क्रायोस्फीयर (हिमांक-मंडल) की स्थिति में देखे गए परिवर्तनों को ध्यान में रखते हुए, भारत की जल सुरक्षा के लिए इसके निहितार्थों की विवेचना कीजिए।

IPCC 6th Assessment Report showed a 12% decrease in the glaciers of Hindukush Himalayas due to rising temperature & climate change.

- Importance of Himalayan cryosphere :-

① Source of water :- To major river systems like Ganga, Brahmaputra, Indus, Yellow & Yangtze.

② Himalayan topography :- It is source of perennial Himalayan rivers helping to maintain the stability in Himalayan slopes.

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(3) Source of freshwater :- Himalayan glaciers provide a source of freshwater to the people in Himalayan states of Uttarakhand, Himachal Pradesh, etc

• Implications for India's water security :-

(1) Dried rivers :- Himalayan rivers provide a continuous watersource for sustenance even during summers while peninsular rivers dry up. eg. Zanskar, Jhelum, Sathlj. etc

(2) Freshwater scarcity :- Sealevel rise due to melting glaciers shall create a scarcity of freshwater due to mixing with the ocean.

(3) Major river systems :- Like Ganga & Brahmaputra on which 73% of the Northern population depends may dry up.

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④ **Threat to economy :-** It shall be a threat to fishing industry.

⑤ **Irrigation potential :-** The melting of glaciers may disturb the irrigation network created, making Indian agriculture overdependent on monsoon.

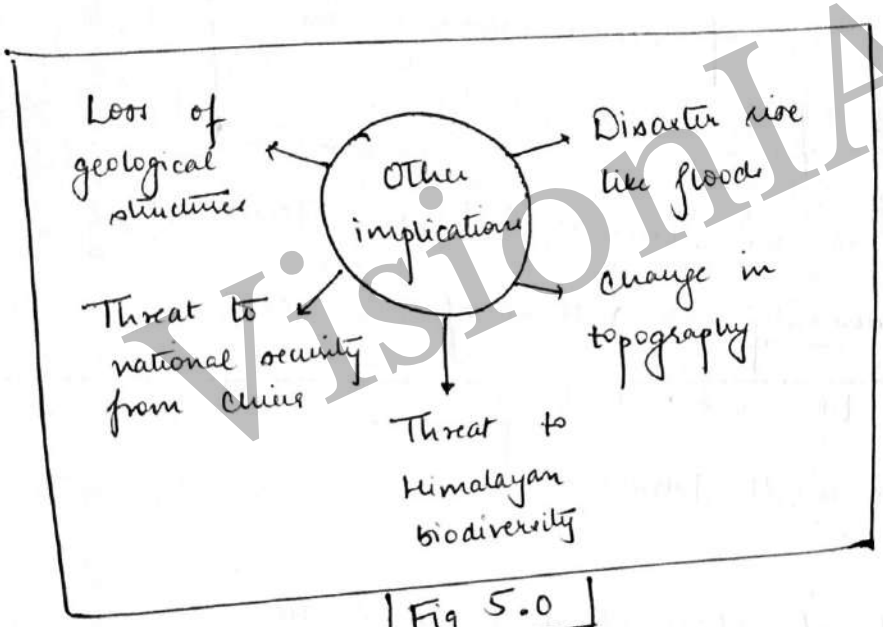

Fig 5.0

Thus, the conservation of Himalayan cryosphere is necessary via necessary steps under National Mission for Sustainable Himalayan Ecosystem.

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margin
(इस भाग में कुछ ना लिखें)

18. Ocean warming, ocean acidification and ocean deoxygenation are often referred to as the 'deadly trio' for marine life. Discuss. **(250 words) 15**

महासागरीय तापन, महासागरीय अम्लीकरण और महासागरीय विऑक्सीकरण को प्रायः समुद्री जीवन के लिए 'घातक त्रयी' के रूप में संदर्भित किया जाता है। विवेचना कीजिए।

0.6°C rise in sea surface temperature has been recorded by IPCC 6th Assessment Report showing ocean warming.

- Implications of ocean warming on marine life :-

① Increase in temperature may threaten the biodiversity at bottom of the oceans adjusted to a low temperature having a ~~short~~ small tolerance.

② Growth of algae that may reduce oxygen availibility for other acquatic life.

③ Ocean warming creates high biological oxygen demand (BOD) reducing oxygen availibility & creating anoxic zones.

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• Implications of ocean acidification :-

① Coral bleaching :- Excessive H^+ ions lead to dissolution of calcium & thus disrupting the protection to xooxanthallae.
eg. Greater Barrier Reef

② Imbalanced pH :- Of water creates higher salts making it ~~difficult~~ of inhabitable for certain marine life with low tolerance for salinity.

• Implications of ocean deoxygenation :-

① Survival of biodiversity :- Threatened to low oxygen availability.

② Habitat loss :- Due to creation of anoxic zones.

③ Food web disruption :- Due to species extinction.

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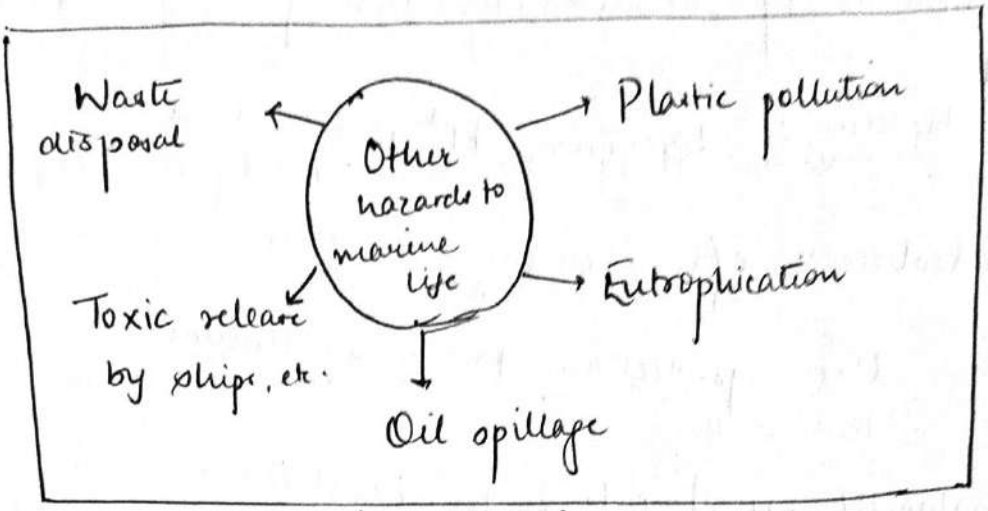

Fig 6.0

Thus, all the three process that is ocean deoxygenation, ocean warming & acidification are a threat to life below water (SDG 14) & measures for ocean restoration must thus be put in place.

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19. Tribals in India continue to face myriad challenges with regard to healthcare. Discuss the issues faced by them in this context and suggest remedial measures.

(250 words) 15

भारत में आदिवासियों को स्वास्थ्य देखभाल के संबंध में निरंतर अनगिनत चुनौतियों का सामना करना पड़ रहा है। इस संदर्भ में, उनके द्वारा सामना किए जाने वाले मुद्दों की विवेचना कीजिए एवं उपचारात्मक उपायों का सुझाव दीजिए।

The tribals have been facing differential access to healthcare systems & out-of-pocket expenditure of 67% aggravates these issues.

- Issues faced by tribals :-

① Lack of information :- Delayed ~~detech~~ diagnosis of diseases due to lack a daisical approach towards health.

② High levels of malnourishment :- Stunting & wasting is high among tribal children due to 'hidden hunger' & malnourished diets.

③ Low literacy :- Literacy rate among tribals is only 54% compared to

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74% of national average.

④ Access to infrastructure :- Public health infrastructure is inaccessible & sometimes unavailable in remote areas. eg. Chambal ravines

⑤ Poor maternal health :- Due to early pregnancies, low rate of institutional deliveries, high maternal mortality rate.

· Remedial measures :-

① Telemedicine :- Can overcome the issue of inadequate health infrastructure by providing cure for basic illnesses like diarrhoea, etc. preventing early deaths.

② Traditional knowledge :- Traditional medicine knowledge of Unani, Naturopathy, etc. should be spread among tribal. ~~to~~

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③ Greater nourishment :- Through proper availibility of food via POSHAN Abhiyan.

④ Improve maternal health :- By improving the rate of institutional deliveries (Orissa 100%), delayed pregnancies & date marriages.

⑤ Attitude towards healthcare :- Greater awareness about preventive healthcare & home remedies for frequent sicknesses.

~~should be~~

Tribals should thus be adequatedy integrated into the healthcare system to achieve SDG 3 (good health & wellbeing).

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20. Reservation for women perpetuates a "proxy culture" as seen in the phenomenon of "sarpanch patis". In this context, discuss whether reservation can address the issue of poor participation of women in Indian politics. **(250 words) 15**

महिलाओं के लिए आरक्षण एक "प्रॉक्सी कल्चर" को बनाए रखता है जैसा कि "सरपंच पति" की परिघटना में देखा जाता है। इस संदर्भ में, चर्चा कीजिए कि क्या आरक्षण भारतीय राजनीति में महिलाओं की निम्न भागीदारी के मुद्दे का समाधान कर सकता है।

Bill for 33% reservation for women in Parliament has been pending in Parliament since years despite India's poor ranking of 135/146 on the Global Gender Gap Index, showing negligible political empowerment.

- Reservation - the answer to women's participation in politics :-

① Opportunities for entry :- The initial push needed for entry shall be given by reservation.

② Level playing field :- Reduced influence of money & muscle power for entry into politics.

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③ **Policy-based politics :-** Reservation shall allow women to independently raise women's issues escaping panel discussions (panels exclusively of men).

• **Reservation not enough :-**

① **Attitudinal problems :-** Women still considered "weaker sex" with limited abilities to compete with men, specially in rural areas.

② **Tools for power usurpation :-** They can be used by their husbands / brothers for gaining political power with no independence.
eg. Panchpati syndrome

③ **No significant empowerment :-** Women in politics may still face abuse. eg. A video of an AAP MLA publicly assaulted by husband.

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④ **Glass Cliff :-** Women may be given leadership during difficult times & shall be blamed later for failure, labelling them 'incompetent.'

• **Measures to improve political participation :-**

Apart from reservation, other measures can be taken :-

① **Access to political education :-** Women should be given examples of successful women political leaders to motivate them. eg. Indira Gandhi, Margaret Thatcher.

② **Level playing field :-** Politics should be made a level playing field and a safe space for women to improve their participation.

Thus, reservation can stimulate women's entry into politics, however exercise of their political independence shall require an attitudinal shift among both women & society.

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GENERAL STUDIES (TEST CODE : 2211)

Name of Candidate	SHAM MARGI		
Medium Eng./Hindi	ENGLISH	Registration Number	141788
Center		Date	2/9/22

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
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11	15	
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18	15	
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20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
   उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न–पत्र कोड, विद्यार्थी क्रमांक आदि)।
2. There are **TWENTY** questions printed in **ENGLISH & HINDI**
   इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
3. **All questions are compulsory.**
   सभी प्रश्न अनिवार्य हैं।
4. The number of marks carried by a question/part is indicated against it.
   प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other that the authorized one.
   प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न–सह–उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
6. Word limit in questions, if specified, should be adhered to.
   प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
   उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

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EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

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All the Best

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(इस भाग में कुछ ना लिखें)

1. The Cholas are inextricably linked with the zenith of Dravidian art and architecture. Comment. **(150 words) 10**
चोल द्रविड़ कला और स्थापत्य की पराकाष्ठा से अनन्य रूप से संबद्ध हैं। टिप्पणी कीजिए।

Cholas perfected the Dravidian style of architecture inherited from Pallavas & contributed to its growth.

- Chola architecture - zenith of Dravidian architecture :-

① Material :- Stone became predominant for temple construction.

② Size :- Temple size was larger than life. eg. 4-storied garbhagriha in Brihadeshwar temple, Thanjavur.

③ Gopuram :- Ornately decorated with carvings representing various Puranas.

④ Vimana :- Greater grandeur. eg. 66 m Vimana of Brihadeshwar temple.

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कुछ ना लिखें)

⑤ Greater emphasis on sculpture in temple construction. eg. Lord Shiva sculpture at Brihadeshwar temple

⑥ Sculpture-making reached its zenith as evident in the Nataraja figure in Tandava posture.

• Not complete zenith :-

↳ While it focused on the grandeur, it lacked the emphasis on the religious importance of the architecture.

Chola empire thus shows the zenith of Dravidian art & architecture.

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2. Among the major legacies of the Indian freedom movement, civil liberties formed an important one. Analyse. (150 words) 10

भारतीय स्वतंत्रता आंदोलन की प्रमुख विरासतों में, नागरिक स्वतंत्रता ने एक महत्वपूर्ण भूमिका निभाई है। विश्लेषण कीजिए।

Indian freedom movement encompassed in itself multiple issues like untouchability, women's emancipation, caste system & among all these, civil liberties remained a major one.

• Demands for civil liberties :-

① Greater Indian representation :- In Councils for decision-making in favor of Indians, through various GoI Acts.

② Freedom of speech :- Press liberties remained an important agenda evident through the opposition against Vernacular Press Act, 1878.

③ Equal wages :- For men & women, were mentioned in Fundamental Rights published in the Karachi session of 1931.

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④ **Equality of treatment:-** Indians meted out discriminatory treatment vis-a-vis British opposed by the RIN Ratings in 1946.

⑤ **Access to justice:-** Demand through Rowlatt Satyagraha against unfair trial process under Rowlatt Act.

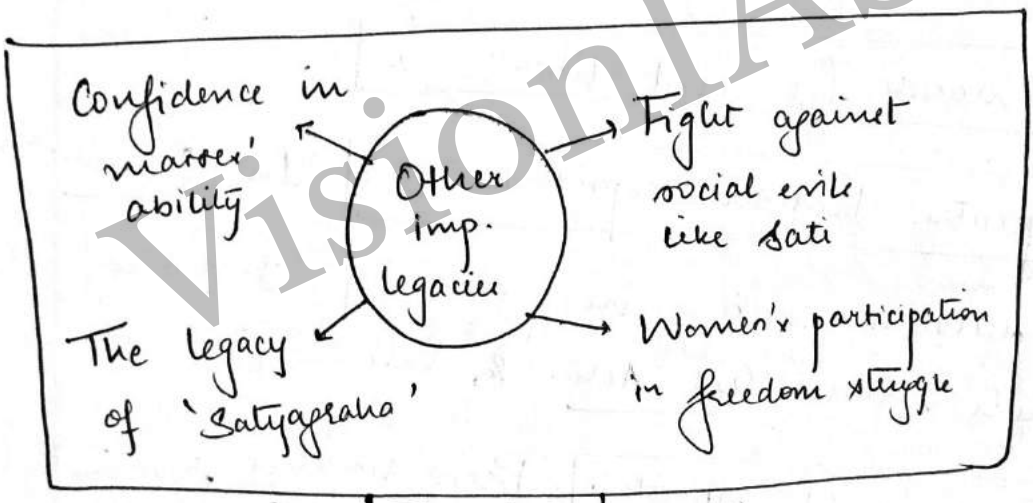

Fig 1.0

Thus, Indian freedom movement provided the foundations to the constitution-makers to frame a democratic & secular Constitution.

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3. The Berlin Conference of 1884-85 in many ways set the ground for the scramble in Africa. Elucidate. **(150 words) 10**

1884-85 के बर्लिन सम्मेलन ने विभिन्न प्रकार से अफ्रीका में विभाजन का आधार तैयार किया। स्पष्ट कीजिए।

The Berlin Conference of 1884-85 was the 3rd wave of colonialism preceded by the 1st & 2nd waves of conquest of America & Asia.

• Berlin Conference :-

↳ It allowed for division of Africa between Europeans.

↳ Multiple colonies in Africa divided between British, French, Dutch, etc.

↳ The natural resources of Africa were thus exploited for economic gains by the colonizers.

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↳ Africa has faced a series of exploitation via the British, French, etc. that stopped its political as well as social growth.

↳ African scramble during the Berlin conference was so long-lasting that its effects are visible till date in its poor economic growth & socio-economic indicators like HDI.

Thus, what Africa needs for its development is a break from the colonial legacy & increased self-reliance & human development to utilise the full potential of its valuable resources.

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4. What is a cloudburst and what are its effects? Why are they more frequent in the Himalayan region? **(150 words) 10**
बादल फटना क्या है और इसके क्या प्रभाव हैं? हिमालयी क्षेत्र में इनकी आवृत्ति अधिक क्यों है?

Cloudburst is a short - duration, intense rainfall event in a small area, recently reported in several places.

- Effects of cloudbursts :

① Flash floods :- In regions with low possibility of water seepage & excessive concretisation.

② Landslides :- Due to intense rainfall pushing the movement of material.

③ Avalanche :- Specially in Himalayan regions.

④ Land caving :- Due to excessive surface pressure & also land subsidence can take

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place.

- Reasons for high frequency in Himalayan region:-

① Decadal temperature rise:- In Himalayan region is greater than the average global increase.

② Climate change:- Leading to increased frequency & intensity of rainfall.

③ Atmospheric circulation:- Change in its pattern due to global warming.

Cloudbursts pose a threat to life & livelihood of population & thus, its efficient management is an immediate necessity.

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5. Despite its potential, there are several challenges in the implementation of the Ken-Betwa Link Project. Discuss. **(150 words) 10**

केन-बेतवा लिंक परियोजना की क्षमता के बावजूद, इसके कार्यान्वयन में अनेक चुनौतियां विद्यमान हैं। चर्चा कीजिए।

Ken-Betwa Link Project in Madhya Pradesh initiated to transfer water from surplus (Ken) to deficit river (Betwa).

- Potential of the project :-

① Hydropower generation :- Providing clean & affordable energy.

② Arrest distress migration :- From water scarce region.

③ Expansion of irrigations potential :- Through construction of a network of dams & channels.

- etc

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• Challenges in implementation :-

① Passing through Panna TR :- Threat to biodiversity, ~~tit~~ specially big cats like Tigers with change in ecosystem.

② Displacement of tribals :- For its implementation & lack of adequate rehabilitation measures.

③ High implementation cost :- And its sharing between Centre & State.

Thus, Ken-Betwa linking must be done with utmost care to ensure social justice to its occupants as well as its surrounding biodiversity.

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6. Identify the issues related to production and supply of coal in India. How can these issues be addressed? **(150 words) 10**
भारत में कोयले के उत्पादन और आपूर्ति से संबंधित मुद्दों की पहचान कीजिए। इन मुद्दों का समाधान किस प्रकार किया जा सकता है?

Recently, coal shortage in India & consequent power cuts shows India's dependence on coal for multiple sectors.

- **Issues in production :-**

① **Inefficient mining process :-** Due to lack of technology use & haphazard ~~local~~ process for locating resources.

② **Low grade coal :-** Like lignite & Bituminous is only available, necessitating imports of Anthracite.

③ **Environmentally hazardous :-** To the nearby residents & biodiversity.

- **Issues in supply :-**

↳ Coal is a weight-losing material & thus its location away from industries

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leads to lower.

• Measures to address issues :-

① Privatisation :- To address demand-supply gap & more efficient mining process.

② Coal gasification :- To be incentivised through rebate to achieve environmental conservation & lower emissions.

③ Technology use :- To enable more scientific mining.

④ Clear land acquisition policy :- To prevent inordinate delays & inflation costs.

Govt. initiatives like Online Coal Clearance System, Coal Linkage policy shall allow us to achieve cleaner & faster thermal energy production.

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7. Present the geographical distribution of agro-based industries in India and discuss the challenges faced by them. **(150 words) 10**
भारत में कृषि-आधारित उद्योगों के भौगोलिक वितरण को प्रस्तुत कीजिए और उनके समक्ष आने वाली चुनौतियों की विवेचना कीजिए।

Agriculture contributed to 19.9% of GDP in 2021-22 rising from 17.8% in 2020-21 with major role played by allied sectors.

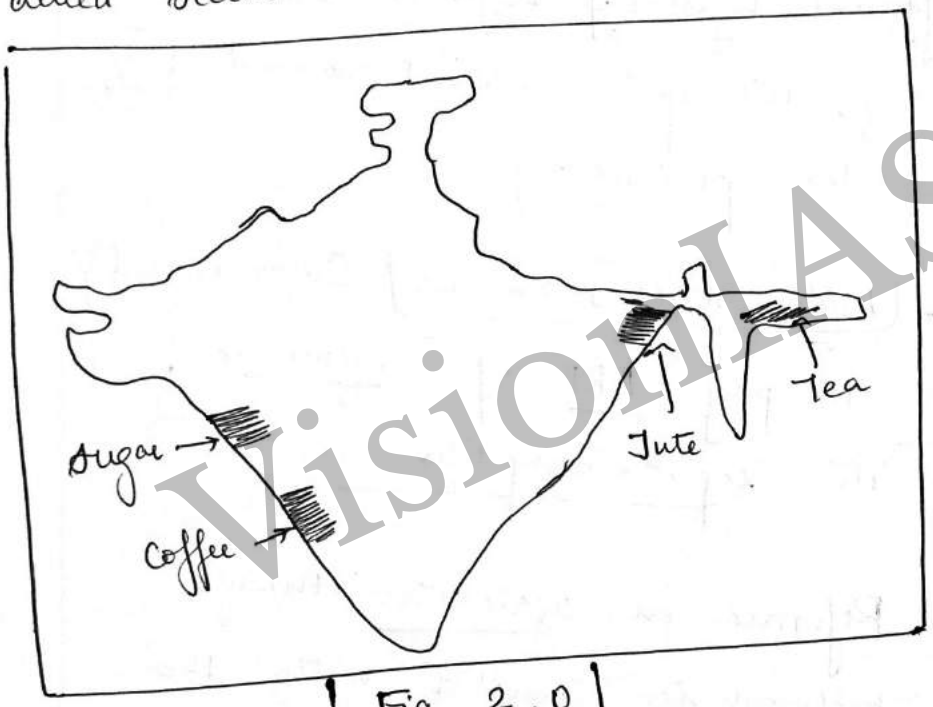

Fig 2.0

- ~~Geographic~~

- Challenges faced by agro-based industries:-

① Lack of continous supply :- Due to raw material shortages as climate change

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altered rainfall pattern & 52.2% agricultural land depends on monsoon.

(2) 'Farm' to 'gate' infrastructure :- Is missing & its connectivity needed to bring greater value addition.

(3) Inefficient logistics :- Logistics like storage, warehousing, transportation cost around 12% of the total product.

(4) ~~Price~~ High cost of raw materials :- Sugar industry mandated to pay FRP of sugarcane, reducing its export-competitiveness.

. Reforms in agriculture through modern technologies coupled with the infrastructure upgradation of industries is needed to achieve the sectors' full potential.

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8. The caste system continues to be one of the key drivers of poverty and inequality in India. Discuss. **(150 words) 10**
जाति व्यवस्था भारत में निर्धनता और असमानता के प्रमुख चालकों में से एक बनी हुई है। विवेचना कीजिए।

Caste system originating from the occupation-based, four-fold Varna system has been one of the greatest drivers of poverty & inequality in India.

• Caste system - driver of poverty :-

① Low literacy :- Literacy rates of SC is only 49% against national average of 74%.

② Overwhelmingly casual workers :- Dalits majorly occupying the informal laborforce, most manual scavengers being Dalits.

③ Access to basic services :- Essential services like healthcare, sanitation, not available

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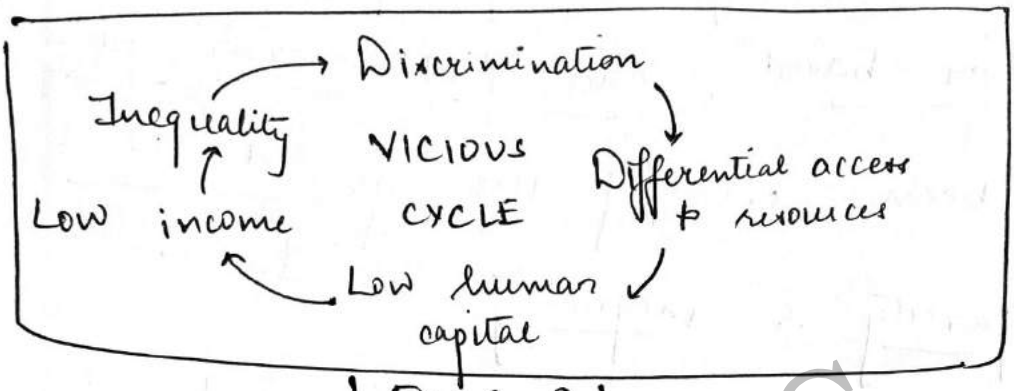
to lower castes & thus, a major disease or death of a breadwinner pushes them below poverty line.



[Fig 3.0]

- **Caste system – driver of inequality :-**

① ~~Public~~ **Private relations :-** Like marriage, dominated by caste identities. eg. Honour killings.

② **Casteisation of institutions :-** Judiciary, mainly Supreme & High Court invariably have ~~higher~~ upper caste judges.

③ Thus, 'annihilation of caste' as suggested by Dr. B.R Ambedkar is needed to achieve an equal society.

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9. Discuss the issues faced by domestic workers in India. Also suggest measures that can be taken to empower them. **(150 words) 10**
भारत में घरेलू कामगारों द्वारा सामना की जाने वाली समस्याओं की विवेचना कीजिए। साथ ही, उन्हें सशक्त बनाने हेतु किये जा सकने वाले उपायों का भी सुझाव दीजिए।

Domestic workers form an important part of the economy contributing to GDP as well as society enabling other women to go for public employment.

• **Issues of domestic workers :-**

① **Unfair wages :-** Due to low collective bargaining power & no formal contract.

② **Domestic torture :-** Faced by domestic workers like violence by owners. eg. A politician recently accused of beating her domestic help with belts & pans.

③ **Sexual harassment :-** Of both men & women by the house owners. & low awareness about their rights against such acts.

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④ **Discriminatory treatment :-** By house owners, eg. Not allowing them to use washrooms, eat in plates of regular use, etc.

• **Measures to empower them :-**

① **Registration & association :-** Registration of domestic workers & forming an association on lines of National Rajai Kamachari Association to improve their bargaining power.

② **Extension of POSH Act :-** To also apply to domestic workers.

③ **Setting fixed wages :-** In each residence property & also a fixed contract period with notice period in case of termination, to ~~allow~~ prevent unfair termination.

Domestic workers should be recognised & given their fair rights to prevent their abuse.

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10. Given the deeply gendered impact of population control measures, examine the need to rethink the current approach of population control measures in India. **(150 words) 10**

जनसंख्या नियंत्रण संबंधी उपायों के गहन लैंगिक प्रभाव को देखते हुए, भारत में जनसंख्या नियंत्रण उपायों के वर्तमान दृष्टिकोण पर पुनर्विचार करने की आवश्यकता का परीक्षण कीजिए।

While 37% of all Indian women are sterilised, only 6.8% of Indian men have undergone vasectomy acc. to a report by National Health Mission.

Recently, UP launched a population control law, however it may put a double burden on women.

- Gendered impact of population control measures :-

(1) Increase in sex-selective & unsafe abortions.

(2) Women's access to health facilities for pregnancy inhibited due to a 2-child policy.

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• Need to rethink current approach :-

① Men deserted or divorced wives to avoid disqualification under any population control policy, a study by Nirmala Buch.

② 13% of currently married women wishing to avoid pregnancies cannot access contraceptives.

③ Low female education is one of the leading cause of more children, acc. to Census 2011.

④ Lack of sex education to children in schools & colleges & misinformation on the internet.

⑤ Female sterilization constitutes 75% of modern contraceptive methods while condoms only 12%; & male sterilization 0.6%.

Thus, population control policies need to put both men & women at its centre & an attitudinal shift delinking sexual fertility with masculinity.

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11. Examine the impact of the Sramana tradition on the Vedic religion and its relation with the emergence of Jainism, Buddhism and Ajivika sects.
(250 words) 15

श्रमण परंपरा के वैदिक धर्म पर प्रभाव और जैन, बौद्ध तथा आजीवक संप्रदायों के उद्भव के साथ इसके संबंध का परीक्षण कीजिए।

Sramana tradition was brought by ascetics who renounced worldly life in the search of truth.

- Impact of Sramana on Vedic religion:-

① Rejected Brahmin orthodoxy :- It largely rejected Brahmins as intermediaries for interpretation of religion.

② Rejected caste system :- It focused more on equality & rejected the fourfold discrimination.

③ Vedic texts:- It rejected the supremacy of philosophy of Vedic texts.

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• Impact on emergence of Jainism, Buddhism & Ajivika sect :-

① Focus on Karma :- It focused on the karma, rather than rituals thus allowing emergence of new religions. eg. Jainism's rejection of Bali & propogation of 'Jivadaya'.

② Simplified truth :- Allowed Buddha's Four Noble Truths like world is full of suffering, desire is the cause, etc.

③ Increased social standing :- Of Kshatriyas & Vaishyas by emergence of Jainism that valued traders due to 'Ahimsa'.

④ New form of salvation :- There Shramana sects focused on practices like meditation (dhyana), rather than Brahmin

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appearement for enlightenment.

(5) New meaning of salvation:- Shramana sect saw Moksha as ultimate aim & rebirth as undesirable, similar to ~~Protestan~~ Calvinist ethic of Protestantism which prompted action for economic gains to achieve salvation.

(6) Egalitarian outlook:- Unlike Vedic religion, Sramana tradition allowed women into religion. eg. Buddhism

Thus, Sramana tradition revolutionised the prospects of social & religious order of ancient India.

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12. Shed light on the use of symbols and symbolic language by Mahatma Gandhi for both, integrating masses into the National Movement and against social evils. **(250 words) 15**

महात्मा गांधी द्वारा राष्ट्रीय आंदोलन में जनता को लामबद्ध करने हेतु और सामाजिक बुराइयों के विरुद्ध, दोनों के लिए किए गए प्रतीकों और प्रतीकात्मक भाषा के उपयोग पर प्रकाश डालिए।

Mahatma Gandhi called the 'Father of the Nation' is rightly referred to for his capability of integrating the masses into the national movement.

• **Use of symbols in National Movement :-**

① **Satyagraha :-** Gandhiji advocated the path of 'truth' & 'non-violence' despite violent struggles. eg. Suspension of Civil Disobedience Movement due to Chauri Chaura.

② **Use of Charkha :-** Gandhiji used Charkha to promote Swadeshi as well as bind the people with one thread.

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↳ Charkha also signified the values of self-reliance that provided confidence to masses.

③ **Abolition of Salt Tax :-** Choosing salt for Civil Disobedience to bind the entire nation into the freedom struggle via Dandi March.

• **Symbols & Symbolic language against social evils :-**

① **Word 'Harijan' :-** Was used to untouchables to show that just like others, even they were the 'children of God.'

② **Cleaning of toilets :-** Advocating for people of all castes to clean toilets to understand the conditions of the

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untouchables.

③ **Drawing women into struggle :-** Promoting ~~Allowing~~ women to participate in freedom struggle to show the equal position of men & women. eg. Sarojini Naidu led the Dharavara Salt Works strike

④ **Untouchables into Hinduism :-** He did not support the caste system & rather took untouchables into the Hindu-fold.
eg. Poona Pact.

Thus, Gandhiji understood the 'pulse of the nation' in his yearlong India tour & channelised the masses' energy into right directions to achieve an independent & equitable India.

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13. Giving a brief overview of the three Carnatic Wars, discuss the factors that led to the success of the British against the French in the struggle for control over India. **(250 words) 15**

तीन कर्नाटक युद्धों का संक्षिप्त विवरण देते हुए, उन कारकों पर चर्चा कीजिए जिनके कारण भारत पर नियंत्रण के लिए संघर्ष में फ्रांसीसियों के विरुद्ध अंग्रेजों को सफलता प्राप्त हुई।

The Seven Years War in Europe between Britian & France manifested in India in form of three Anglo-Carnatic Wars.

- Overview of 3 Anglo-Carnatic Wars :-

① First Anglo-Carnatic War (1740-48) :-

↳ English navy seized some of the French ships, while France retaliated by seizing Madras in 1746.

↳ Battle of St. Thome between French forces & the forces of Anwaruddin who was helping British.

↳ It ended with the Treaty of Aix-La-Chapelle with French returning

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Madras & getting back their territories in North America.

② Second Carnatic War (1749-54) :-

↳ French under Dupleix supported Muzaffar Jang while English sided with Nasir Jang. for accession to Hyderabad's throne.

↳ A treaty concluded where English & French agreed not to interfere in native quarrels & Dupleix was recalled.

③ Third Carnatic War (1758-63) :-

① → Count de Lally of France captured English forts while English inflicted destruction on French fleet at Masulipatnam.

↳ Eyre Coot defeated the French at Battle of Wandiwash.

↳ Treaty of Paris concluded restoring to the French their factories but zero political presence.

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• Reason for British success:

① English company was a private enterprise & thus quick decision-making, while French company was a State concern.

② English Navy superior to French navy.

③ English had Calcutta, Bombay & Madras while French only had Pondicherry.

④ French subordinated their commercial interest to territorial subordination while English never neglected it, allowing them sound financial position.

⑤ Superior leadership on British side with Eyre Coot, Clive & Major Lawrence but only Dupleix on French side.

The Anglo-Carnatic wars displayed the British supremacy among Europeans to trade with India & subsequently increase the political conquest.

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14. Provide an account of the issues that led to a crisis in Punjab in the 1980s. Also, discuss the roadmap to peace that was eventually adopted. **(250 words) 15**

1980 के दशक में पंजाब में संकट उत्पन्न करने वाले मुद्दों का विवरण प्रस्तुत कीजिए। साथ ही, शांति स्थापना की उस रूपरेखा पर चर्चा कीजिए जिसे अंततः अपनाया गया था।

The state of Punjab called the "Wheat Bowl of India" was marred by multiple issues after the success of Green Revolution during Phase-I.

• Issues in Punjab during 1980s :-

① Seperatist movements :- Demand for Khalistan to avail the fruits of Green Revolution only for its own success.

② Anti-Sikh riots :- In 1984 after the assassination of former Prime

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Minister Indira Gandhi which led to 'Operation Blue Star'.

③ **Land degradation :-** Excessive use of pesticides & fertilizers for improving crop productivity led to soil fertility decline.

④ **Terrorism :-** Pakistan used the separatist tendencies emerging in Punjab for infiltration of terrorists through Punjab border.

⑤ **Punjab - Haryana seperation :-** After the Green Revolution success, heavy demand to seperate Punjabi speaking areas from Hindi speaking areas.

• **Roadmap to peace :-**

① **Amitority towards Sikhs :-** Sikh community was given greater representation to reduce

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xenophobic tendencies against them.

② Introduction of better practices :- Agriculture was tried to make more sustainable via use of bio-fertilizers, etc.

③ Crackdown on separists :- Through strict punishment to discourage such practices.

• Persistent & emerging challenges :-

① Narco-terrorism :- Punjab's proximity to Golden Triangle is being exploited.

② Land degradation :- In erstwhile Green Revolution areas due to mono-cropping, excessive irrigation, etc.

Punjab has a well-developed irrigation system alongwith an awakened citizenry which should be channelized to resolve the above issues.

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15. Give a brief account of the distribution of installed capacity of solar power in India. Highlighting the challenges in proper utilisation of solar energy, mention the steps taken by the government to promote it in India. **(250words) 15**

भारत में सौर ऊर्जा की संस्थापित क्षमता के वितरण का संक्षिप्त विवरण दीजिए। सौर ऊर्जा के उचित उपयोग में विद्यमान चुनौतियों को रेखांकित करते हुए, भारत में इसे बढ़ावा देने के लिए सरकार द्वारा उठाए गए कदमों का उल्लेख कीजिए।

India has a renewable energy capacity of 166.7 GW of which 57% is solar energy.

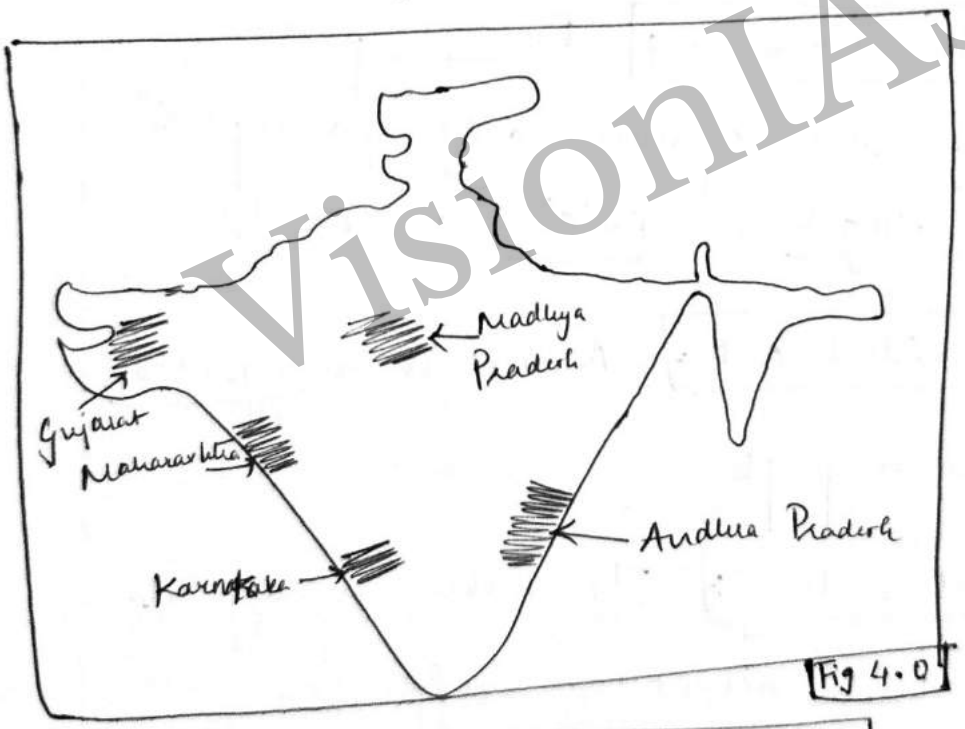

Fig 4.0

• Distribution of solar power :-

① Gujarat & Maharashtra have developed significant solar energy power.

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② Andhra Pradesh recently developed India's 1st floating solar power plant.

• Challenges in utilisation of solar power:

① Focus on consumption:- Solar power's focus has only been on increasing its production & not respective consumption.

② Limited stakeholders:- Discoms, power generating state agencies only participates in RPO obligations limiting its reach.

③ High initial cost:- Makes it unaffordable for common people

④ Smart metering:- Its lacking making its calculation & accounting difficult.

⑤ Inadequate infrastructure:- In areas with high potential like Uttar Pradesh, Bihar.

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(c) Limited private participation :- Due to high AT&C losses & low profit market.

• Initiatives by Government :-

(1) National Solar Mission :- To produce 100 GW of solar power by 2022.

(2) PM-KUSUM :- To use solar pumps for irrigation reducing cost as well as fossil fuel use.

(3) Solar streetlights :- By multiple state governments.

(4) Incentivised solar grids on rooftops by providing subsidies.

(5) Green Grid initiative & International Solar Alliance by India. to create a global power grid.

Harnessing the potential of solar energy can help India achieve its Panchamrit goals as well as fulfill SDG 7 (clean & affordable energy).

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16. Post-drift theories based on ocean floor mapping provided new dimensions to the study of distribution of oceans and continents. Elaborate. **(250 words) 15**

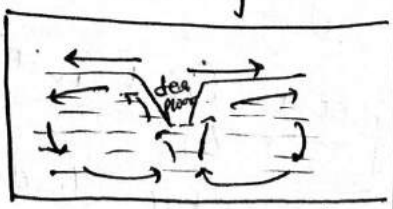
महासागरीय-अधस्तल के मानचित्रण पर आधारित उत्तरवर्ती प्रवाह सिद्धांत ने महासागरों और महाद्वीपों के वितरण के अध्ययन को नए आयाम प्रदान किए हैं। सविस्तार वर्णन कीजिए।

Continental drift theory by Alfred Wegner & its inconsistencies gave way to later theories like Seafloor spreading by Hess & Plate Tectonics Theory.

• New dimensions by Sea Floor Spreading :-

① It debunked the fact that continents were floating over oceans.

② It showed the forces of movement as the convectional currents in the mantle & the consequent & continuous seafloor spreading.



③ It helped understand geological formations underwater like guyots, mounds, trenches, etc.

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• New dimensions by Plate tectonics :-

① Clearly demarcated the division of Earth into multiple plates.

② Gave reasons for hazards like earthquakes, volcanoes.

③ Helped to understand formations like Pacific Ring of Fire.

④ ~~Predicts the future~~

④ Geomorphological features like islands, mountain chains explained via the drift theory.

⑤ Helps understand Earth's evolution, right from Vaalbara to Pangea to the ~~tatat~~ seven continent formation.

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• New updations in study of oceans & continents :-

① Recently, a study found Greater Maldives Ridge to be an aseismic ridge provided that it underlains an oceanic crust.

② The updated map of Tectonic Plates shows introduction of few new plates like Macquire plate, south of Tasmania.

The drift theory however laid a foundation for other theories to better understand the evolution of Earth's structure.

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17. Explain the phenomenon of heat waves. Also, enumerate the conditions favourable for the development of heat waves in India and their associated health impacts.

(250 words) 15

हीट वेव्स की परिघटना की व्याख्या कीजिए। साथ ही, भारत में हीट वेव्स के विकास के लिए अनुकूल परिस्थितियों और उनसे संबद्ध स्वास्थ्य प्रभावों को सूचीबद्ध कीजिए।

Heatwaves refer to extremely hot temperatures, generally beyond 45°C in areas leading to multiple issues.

• Conditions favorable for heatwaves :-

① Entrapping conditions :- Areas with no conditions for air escape, thus locking in temperature.

② Urban heat islands :- Excessive ~~concent~~ concretization & high absorption by structures leads to heat waves.

③ Low rainfall :- Low moisture & precipitation may also produce heatwaves.

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④ **Global warming:** India has experienced a 0.7° C rise in overall temperature since 1901, thus increasing the average temperature.

⑤ **High ozone depleting substances:-** Release of ODs from ACs, refrigerators, etc alongwith heat also increases the temperature.

· **Health impacts due to heatwaves:-**

① **Heat stroke:-** Which may be fatal.

② **Dehydration:-** Specially for people travelling on foot or two-wheelers directly facing sun's heat. eg. Delivery partners of Zomato, Swiggy.

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③ **Skin burns :-** Excessive heatwaves can lead to severe burns.

④ **Water borne diseases :-** Due to infestations of mosquitoes, etc. & resulting diarrhoea, typhoid like diseases.

Recent heatwaves in colder countries like Canada & USA show the rising climate change & immediate need for climate action (SDG 13) to protect humans as well as floral & faunal diversity.

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18. Providing an account of distribution of rainforests across the world, mention their key characteristics. Also highlight the threats that are being faced by tropical rainforests. **(250 words) 15**

विश्व भर में वर्षावनों के वितरण का विवरण प्रस्तुत करते हुए, उनकी प्रमुख विशेषताओं का उल्लेख कीजिए। साथ ही, उष्णकटिबंधीय वर्षावनों द्वारा सामना किए जा रहे खतरों को भी रेखांकित कीजिए।

Tropical rainforests are called the "Lungs of the Earth" due to its abundant oxygen-providing property.

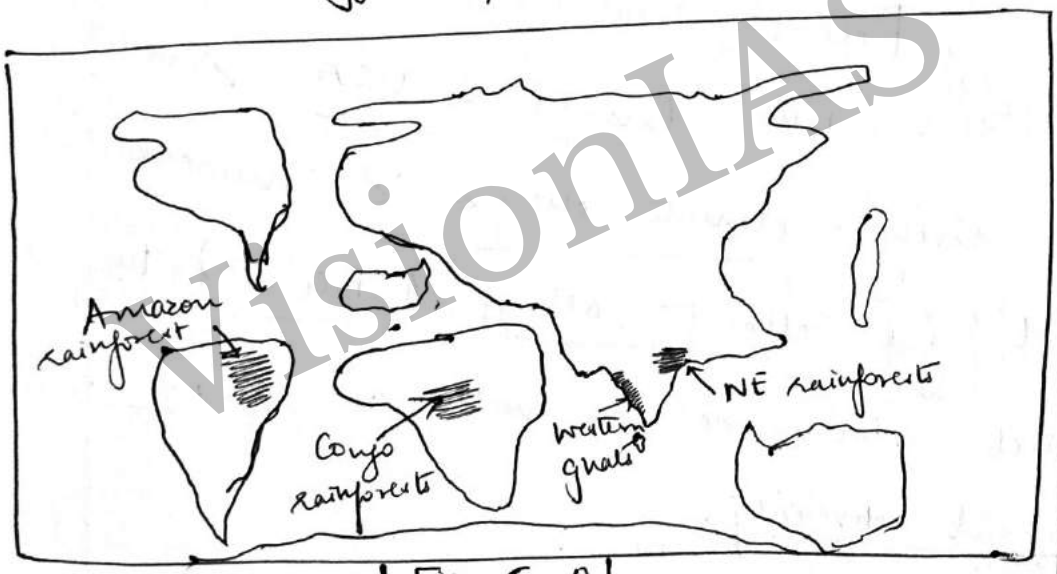

Fig 5.0

- **Distribution of rainforests :-**

① **South America** :- Amazon rainforests contribute to 40% of world's tropical rainforests.

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② **Africa:** Congo basin is home to large tropical rainforests & Great Green Wall initiative may allow its growth.

③ **Asia** :- India has tropical rainforests in Western Ghats & North-East region.

• **Key characteristics of rainforests :-**

① **Precipitation :-** Of around 200-400 cm every year with some even crossing 450 cm.

② **Vegetation :-** Vegetation remains thin & soil podzolic due to rain erosion of soil & thus, is covered by shrubs.

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③ **Fauna :-** Animals like the big cats like Tiger, Lion alongwith certain macaques can be found here.

• **Threats posed :-**

① **Deforestation :-** Recently, Brazil's president called for deforestation in Amazon for roads construction.

② **Wildfires :-** Forest fires like those recently in Australia pose a threat to rainforests.

③ **Rainfall intensity :-** Has changed along with its frequency due to climate change thus threatening its biodiversity.

Tropical rainforests can be instrumental in coping with adaptation & mitigation towards climate change & stimulate sustainable development.

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19. Indian cities are not only mimicking the social and cultural structures of inequality and exclusion found in rural areas but are also creating fault lines for future conflicts. Discuss. **(250 words) 15**

भारतीय शहर न केवल ग्रामीण क्षेत्रों में पाई जाने वाली असमानता और बहिष्करण की सामाजिक और सांस्कृतिक संरचनाओं की नकल कर रहे हैं, बल्कि भविष्य के संघर्षों के लिए दोषपूर्ण स्थिति का भी निर्माण कर रहे हैं। विवेचना कीजिए।

Recent incidents of assaults on security guards, rickshaw drivers, delivery partners show that even Indian cities have not accepted modern values of equality.

- Social & cultural structures of inequality in Indian cities :-

① Casterization of workforce :- Employers like contractors & factory owners largely employ people of one's own caste.

② Ghettoisation :- People living in slums or cities' outskirts generally belong to a particular community.

③ Low women's participation :- Share of urban

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women in labour force participation is lower than that of rural women.

④ **Honor killings :-** Due to inter-caste marriages still prevails in cities. eg. Kowalya murder case.

⑤ **Low education :-** Literacy rate of SCs is 59% compared to national avg. of 74% showing differential access. (Census 2011)

• **Creating fault lines for future conflicts :-**

① **Mob lynchings :-** Mainly in urban areas on issues like cow vigilantism, child theft, etc. targetting a particular community.

② **Rising communalism :-** Murder of a tailor in Udaipur city shows rising intolerance

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on ascriptive issues.

③ Skewed employment ratios :- Not majority Dalits are manual-scavengers, however manual scavengers are majority Dalits showing persisting structures of inequality & exclusion.

④ Sex ratio at birth :- The most affluent regions like Punjab, Haryana have one of the lowest child sex ratios showing the prevailing patriarchy.

Thus, initiatives like AMRUT & Smart Cities Mission should also incorporate modern values of tolerance, justice, equality to create an equitable society & achieve SDG 11.

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20. Examine the multi-dimensional impact of globalisation on tribal development in India. **(250 words) 15**
भारत में जनजातीय विकास पर वैश्वीकरण के बहुआयामी प्रभाव का परीक्षण कीजिए।

Globalisation has been referred as the movement of people, capital & thoughts across borders leading to greater global integration.

As globalisation is multi-faceted, it has impacted every area including tribal development.

• Multi-dimensional impact :-

① Economic :-

↳ Tribal handicrafts have reached global markets due to initiatives like Hunar Haat, Swarajkund Crafts Fair, etc.

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↳ New means of livelihood in form of tourism.

↳ However, development-induced displacement of tribals has increased due to projects like hydropower plants.

② Social :-

↳ Globalisation has hampered the community living structure of tribals.

↳ Their displacement has made them second-class citizens with limited access to even education, healthcare, etc.
eg. Only 31% literacy rate of STs

↳ However, it has also allowed for their integration into mainstream & reduced discrimination due to anonymity.

③ Cultural :-

↳ Globalisation has called for greater

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homogenisation of culture. eg. Tribal practices of Bali of animals banned.

↳ The food habits, dressing habits, etc. have changed due to globalisation.

④ Political :-

↳ Greater integration of tribals in decision-making processes due to greater access to information as result of globalisation.

⑤ Legal :-

↳ Global values of equality, democracy & liberty have allowed tribals to get legal protection. eg. Prevention of Atrocities Act.

Thus, tribal development has been significantly impacted however as even the tribals are a heterogenous group, the impacts cannot be homogenised.

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GENERAL STUDIES (TEST CODE : 2213)

Name of Candidate	SHAH MARGI		
Medium Eng./Hindi	ENGLISH	Registration Number	141788
Center		Date	16/08/22

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
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6	10	
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8	10	
9	10	
10	10	
11	15	
12	15	
13	15	
14	15	
15	15	
16	15	
17	15	
18	15	
19	15	
20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
   उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न–पत्र कोड, विद्यार्थी क्रमांक आदि)।
2. There are **TWENTY** questions printed in **ENGLISH & HINDI**
   इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
3. **All questions are compulsory.**
   सभी प्रश्न अनिवार्य हैं।
4. The number of marks carried by a question/part is indicated against it.
   प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other that the authorized one.
   प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न–सह–उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
6. Word limit in questions, if specified, should be adhered to.
   प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
   उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

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EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

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All the Best

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(इस भाग में कुछ ना लिखें)

1. An effective approach to green budgeting is underpinned by strong strategic framework, tools for evidence generation and an enabling budgetary governance framework. Discuss. **(150 words) 10**

हरित बजट के लिए एक प्रभावी दृष्टिकोण को सुदृढ़ रणनीतिक ढांचे, साक्ष्य निर्माण हेतु उपकरण और एक सक्षम बजटीय शासन ढांचे द्वारा सुदृढ़ता प्रदान की जाती है। विवेचना कीजिए।

"Green budgeting refers to use of budget - taxes, spending & policy coordination - to assess & promote alignment essential to meet environmental goals." - OECD

- Effective approach to green budgeting :-

① Strong strategic framework :-

↳ Standardised accounting of environmental costs for economic growth.

↳ Adopting of green budgeting in all sectors i.e corporates, private institutions like family & also the State to ensure holistic approach.

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② Tools for evidence generation :-

↳ Clear measurements of emissions from various sectors through development of technology & necessary periodic surveys.

↳ Using Gross Environment Product as a standard tool for measuring growth.

③ Enabling budgetary governance framework :-

↳ Measuring success of policy initiatives of budget w.r.t achievement of environmental conservation.

↳ Calculating ecological costs of economic growth while budget preparation.

Green budgeting is the roadmap to achieve sustainable development & fulfill SDG goals by 2030.

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2. State the need for circular economy in India and the challenges associated with it. Also, discuss the measures that are required to build a circular economy in India. **(150 words) 10**

भारत में चक्रीय अर्थव्यवस्था की आवश्यकता और इससे जुड़ी चुनौतियों का उल्लेख कीजिए। साथ ही, भारत में एक चक्रीय अर्थव्यवस्था के निर्माण के लिए आवश्यक उपायों पर चर्चा कीजिए।

Circular economy refers to an industrial system that focuses on restoration or regeneration in intention & design.

• Need for circular economy :-

① High population :- India's population of 1.3 billion people & still rising creates greater resource demand, which can be fulfilled by circular economy.

② Inclusive growth :- Circular economy can ensure better redistribution of wealth among people by developing multiple markets

③ Employment generation :- It can open up a new sector with opportunities for traditionally

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skilled people to gain employment.

- **Challenges in circular economy :-**

① **Lack of infrastructure :-** Adequate processing facilities as well as technology is not available. for

② **Public attitude :-** 'Use & throw' attitude of the West has now been highly ingrained in India. eg. A study says around 23% people change their mobiles within a year.

- **Measures to build circular economy :-**

① **Incentivise ~~Re~~ 3Rs :-** schemes like Deposit Refund scheme can ~~ensure~~ help.

② **Greater formalisation :-** Formalisation of recycling sector can help in tracing & tracking waste generated. eg. Currently, only 6% formalisation.

Circular economy can help ~~us~~ in achieving SDG 6, 7 & 12 & should be worked towards

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3. The Major Port Authorities Act, 2021, seeks to grant greater autonomy and flexibility to the major ports and professionalise their governance. Discuss. **(150 words) 10**

प्रमुख बंदरगाह प्राधिकरण अधिनियम, 2021, प्रमुख बंदरगाहों को अधिक स्वायत्तता और लचीलापन प्रदान करने तथा उनके शासन को पेशेवर बनाने का प्रयास करता है। विवेचना कीजिए।

Major Ports Authorities Act, 2021 aims to replace Major Ports Trusts Act, 1963 applicable to 12 major Indian ports.

- Granting greater autonomy :-

① Creation of a Board :- Board of Major Port Authority shall be created for each major port, decentralising decision making.

② Authority to fix tariff :- The Board can fix the tariff for each major port.

③ Authority to use assets :- Board is free to use the assets, property & funds as they deem fit for the development of port.

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• **Professionalising its governance :-**

① **Inclusive Board :-** It will have members from State government where port is located, Ministry of Railways, Defence, Customs, Central Government.

② **Private participation :-** Public - Private Partnership operators shall have independence to fix tariff, thus providing greater efficiency.

• **Hurdles :-**

↳ It may lead to graded privatization of ports & dilution of State role in its land use.

Changing the governance structure is the first step towards improving ports & steps further should be addressing to improving service delivery & seamless connectivity

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4. Analyse the need for shifting from presumptive land titling to conclusive land titling system in India. Also, highlight the hurdles in its implementation. **(150 words) 10**

भारत में अनुमानित भूमि स्वामित्व से निर्णायक भूमि स्वामित्व प्रणाली में स्थानांतरण की आवश्यकता का विश्लेषण कीजिए। साथ ही, इसके क्रियान्वयन में आने वाली बाधाओं को रेखांकित कीजिए।

Conclusive land titling system refers to title contract between State & the landholder, rather than land records present only based on selling records, survey, etc.

• Need for conclusive land titling :-

① Reduce legal disputes :- By maintaining clear land records.

② Quick land acquisition :- For development projects of State like bullet train, etc. reducing the cost of inflation.

③ Protecting landholder rights :- As state shall be responsible for providing

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compensation in case of loss of land rights.

- **Hurdles in implementation :-**

① **Unclear land records :-** Presently, land is not clearly recorded as well as demarcated.

② **Family disputes :-** Mostly land disputes are between families & face a huge pendency of cases in judiciary.

③ **Difficulty for administration :-** Due to lack of training as well as manpower, this exercise shall be cumbersome to complete.

Conducive land titling is desired and universal digitization of land records can be the first step towards achieving it.

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5. What do you understand by methanol economy? Critically discuss its role in achieving India's energy security and economic prosperity. **(150 words) 10**

मेथनॉल अर्थव्यवस्था से आप क्या समझते हैं? भारत की ऊर्जा सुरक्षा और आर्थिक समृद्धि प्राप्त करने में इसकी भूमिका की समालोचनात्मक विवेचना कीजिए।

Methanol economy refers to the use of methanol in energy generation, as fuel in both transportation & cooking.

NITI Aayog recently launched 'Methanol Economy' programme as it is low carbon, hydrogen-carrier fuel that can be India's pathway for achieving its COP 21 commitments.

- Role in achieving energy security :-

① Reduced global dependence :- Methanol can be produced from high ash coal & thus, reduce India's dependence on natural gas that needs to be imported.

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margin
(इस भाग में कुछ ना लिखें)

② Reduce ~~India's import~~ effect of geopolitics :- It will reduce India's dependence on oil price fluctuations due to changing geopolitics. eg. Ukraine-Russia crisis.

• Role in Economic Prosperity :-

① Reduce India's import bill

② Employment :- Will create close to 5 million jobs through methanol production & distribution services.

③ Gas prices :- By blending 20% dimethyl ether with LPG, ₹6000 cr can be saved annually.

India thus with 125B tonnes of coal reserves has huge potential and it should focus on methanol economy as much as it does on electrical mobility.

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6. Discuss the role of geospatial technologies in developing effective approaches for disaster risk reduction and disaster management.

(150 words) 10

आपदा जोखिम न्यूनीकरण और आपदा प्रबंधन के लिए प्रभावी दृष्टिकोण विकसित करने में भू-स्थानिक प्रौद्योगिकियों की भूमिका की विवेचना कीजिए।

Geospatial technologies refers to use of location-based information like GIS (Geographical Information System), GPS (Global Positioning System) for various sectors.

• Role of geospatial technologies in risk reduction :-

① Hazard-mapping :- Zoning of areas for earthquakes, landslides could be done. eg. Earth Observation Satellites

② Disaster-resilient infrastructure :- Geo-tagging of resilient infrastructure could be undertaken to provide safe shelter.

③ Early Warning System :- eg. Mumbai's IFLOWS

anything this margin (कुछ भाग में कुछ का लिखें)

- Geospatial technologies in disaster management :-

① Marking of areas for accessing the affected region through Satellites, etc

② Geo-Tagging of available resources during disasters. eg. Water resources in flood-prone areas of Assam to avert drinking water problem.

Thus, geospatial technologies & its indigenisation like NaVIC has huge potential in disaster risk reduction & quick action for disaster management.

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(इस भाग में कुछ ना लिखें)

7. The focus of Environmental Impact Assessment (EIA) needs to shift from utilization and exploitation of natural resources to conservation of natural resources. Discuss. **(150 words) 10**

पर्यावरणीय प्रभाव आकलन (EIA) का मुख्य ध्यान प्राकृतिक संसाधनों के उपयोग और दोहन से हटाकर प्राकृतिक संसाधनों के संरक्षण पर केंद्रित होना चाहिए। विवेचना कीजिए।

Environmental Impact Assessment under the Environment Protection Act, 1986 aims to assess the impact of construction projects on the surrounding environment.

- Problems with focus on preventing exploitation:

① Short-term approach :- This approach shall only be suitable for short-term as it ultimately consumes natural resources.

② Post-facto approval :- SC judgement that EIA does not prohibit post-facto approval defeats the very purpose & equates economic compensation to environmental exploitation.

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③ Narrow focus :- It majorly focuses only on environment, neglecting spillover effects on surrounding population, biodiversity, etc.

• Need for focus on conservation :-

① Broadened focus :- It will ensure the ecological sanctity of the area & sustainable development. eg. Aquatic biodiversity in urban wetlands

② Inter-generational parity :- Focus on conservation will maintain natural resources for future generations as well.

• Other measures :-

① Changing measure of growth :- Green Environmental Product needs to replace GDP as a measure of sustainable growth.

② Calculating economic costs of ecosystems & biodiversity will ensure greater conservation.

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8. What do you understand by hybrid warfare? Discuss India's preparedness in this context. **(150 words) 10**

हाइब्रिड वारफेयर से आप क्या समझते हैं? इस संदर्भ में, भारत की तैयारियों की विवेचना कीजिए।

Hybrid warfare refers to the use of unconventional methods like perception management, propaganda, etc. alongwith conventional military tactics as a part of multi-domain warfighting approach.

Characteristics of Hybrid Warfare

- Multi Domained
- Maximum Damage with Minimum Effort
- Deploying Non-State Actors

Fig 1.0

- **Recent Usage:-**

① **China:-** Chinese company Zhenua Data monitored over 10,000 Indian individuals & organisations & created an information library.

② **Lebanon - Israel:-** Hezbollah group used tactics like guerilla warfare & information campaigning.

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- India's preparedness :-

① Integrated Theatre Commands :- Apart from Andaman & Nicobar command, India is to setup 5 theatre commands for integrated & quicker action.

② National Critical Information Infrastructure Protection Centre :- It aims to protect India's critical infrastructure like banking, nuclear plants, etc. from cyber attacks.

③ CERT-In :- Central agency for intercepting cyber attacks.

④ ASAT :- India launched ASAT missile that could shoot down any satellite threatening to India's infrastructure, protecting against space warfare.

Hybrid warfare should thus be developed via continuous self-assessment & threat analysis to effectively respond to hybrid threats.

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9. Discuss the challenges associated with inclusion of women in armed forces, particularly in combat roles in India. How can these challenges be addressed? **(150 words) 10**

सशस्त्र बलों, विशेष रूप से भारत में युद्धक भूमिकाओं में महिलाओं को शामिल करने से संबंधित चुनौतियों पर चर्चा कीजिए। इन चुनौतियों का समाधान कैसे किया जा सकता है?

Recently, women were allowed to undertake combat roles in the army after Supreme Court's judgement, making it a landmark in history.

• Challenges associated with women's inclusion:

① Primary targets :- They could be the first targets during a war due to the honour & prestige associated with women.

② Acceptance among fellow soldiers :- Stereotypical attitude towards women can affect their working as fellow soldiers may not be willing to accept their orders.

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③ Heinous crimes :- Crimes like rape, heinous killing of women can be used.

• Measures to address challenges :-

① Gender sensitisation :- Portraying Armed forces as a gender-neutral place, greater interactions between men & women in forces, etc.

② Self-defence :- Women can be given additional self-defence lessons to protect themselves during war.

③ Graded inclusion :- The role of women should be gradually increased to allow time for adjustments to fellow male soldiers for acceptance.

Women's mental strength with emotional intelligence can help the armed forces in winning tactically.

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10. S. Chandrasekhar was one of the greatest scientists of the 20th century whose prolific contributions spanned across astrophysics, space and mathematics. Elaborate. **(150 words) 10**

एस. चंद्रशेखर 20वीं सदी के महानतम वैज्ञानिकों में से एक थे, जिनका खगोल भौतिकी (एस्ट्रोफिजिक्स), अंतरिक्ष और गणित के क्षेत्र में विपुल योगदान था। सविस्तार वर्णन कीजिए।

S. Chandrashekhar was an Indian mathematician & physicist who received Padma Vibhushan for his exceptional contribution to science.

• Prolific Contributions of S. Chandrashekhar:-

① Chandrashekhar limit :- He said that mass of white dwarfs cannot be more than 1.44 times that of Sun.

② Nobel Prize in Physics :- For studying physical processes that affect the creation & evolution of stars.

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margin
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③ Study of stellar structure & stellar molecules.

④ He also gave a mathematical theory on blackholes, combining mathematics & astrophysics.

⑤ His theory on colliding gravitational waves contributed to development of gravitational lensing.

• Recognitions :-

① Chandra X-Ray Observatory :- Named after him by NASA.

② Himalayan Chandra Telescope is also named after him.

Thus, he laid the foundations for further discoveries in the field of astrophysics, space by his groundbreaking work.

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11. State finances in India present a worrying picture, with debt sustainability being a major concern. Discuss in context of the recent RBI report on state finances. **(250 words) 15**

भारत में राज्य वित्त एक चिंताजनक स्थिति प्रस्तुत करता है, जिसमें ऋण संधारणीयता एक प्रमुख चिंता का विषय है। राज्य वित्त पर आर. बी. आई. की हालिया रिपोर्ट के संदर्भ में विवेचना कीजिए।

RBI recently released a report, "A Study of State Finances in 2020-21", majorly focusing on the issues & challenges in State Finances.

• Worrying state of affairs :

① Increased fiscal deficit : States' fiscal deficit increased to 4.5% of GDP in 2020-21 from 2.9% :

② Rising public debt :- States' debt increased to 25.1% of GDP (2020-21) from 17.2% (2017).

③ Low tax collection :- States' collected

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property taxes of only 0.2% of GDP due to issues like undervaluation of property, ineffective administration, etc.

④ Power sector issues :- State-owned DISCOMs prove to be a major burden on states' exchequer.

• Rising issues in state finances :-

① Low tax devolution :- States face a horizontal & vertical imbalance in tax devolution which has recently reduced due to growth in cesses & surcharges.

② Reduced untied funds :- 15th Finance Commission recommended reduced funds of untied nature & generally, focused on Centrally Sponsored Schemes.

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③ **Populist measures :-** Like farm loan waivers also burden the state finances, the recent issue on freebies also indicates the same.

④ **Suggestions for improving State finances :-**

① Independent Fiscal Council :- As recommended by 15th Finance Commission to evaluate states' fiscal decisions

② **Overhaul of FRL :-** Fiscal Responsibility Legislations of States should be more aligned to FRBM.

③ **Power sector reforms :-** UDAY scheme should be effectively used supported by reduced T&D losses & smart metering.

States' finances largely impact the national economy & hence, its good health is imperative for economic development

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12. The Indian experience provides several lessons of an inclusive digital economy model that enables formal digital governance structure at a low cost and with easier access. Discuss. **(250 words) 15**

भारतीय अनुभव एक समावेशी डिजिटल अर्थव्यवस्था मॉडल के कई सबक प्रदान करता है जो कम लागत पर और आसान पहुंच के साथ औपचारिक डिजिटल शासन संरचना को सक्षम बनाता है। विवेचना कीजिए।

Recently, India's Unified Payments Interface crossed 90 bn transactions making it a huge success & a case study for countries like USA & China to understand its success.

- Inclusive digital economy → digital governance at low cost & easier access :-

① Financial inclusion: Through PM Jan Dhan Yojana made it easier for government to implement schemes like Direct Benefit Transfer & also tracking its implementation.

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② Improving feature-phone access :- Models like UPI 123 allow financial inclusion to feature phone users, schemes like MAA Card that can be received via feature-phones itself.

③ Multilingual interface :- It makes digital governance accessible & available for all citizens. eg. MyGov.in

Thus, Indian digital economy model served as a foundation to build a universally accessible digital governance framework.

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13. Dairying is a viable livelihood option for a large section of the population. In this context, discuss the significance, challenges faced and associated government initiatives for the dairy sector in India. **(250 words) 15**

डेयरी व्यवसाय, आबादी के एक बड़े हिस्से के लिए आजीविका का एक व्यवहार्य विकल्प है। इस संदर्भ में, इसके महत्व, विद्यमान चुनौतियों और भारत में डेयरी क्षेत्र के लिए सरकार द्वारा की गयी पहलों की विवेचना कीजिए।

Dairy industry provides 30% extra income to rural households, thus improving their lifechances by improving livelihood.

- **Significance of dairy sector :-**

① **Largest livestock :-** India is home to 533 M livestock, highest globally. (Agri. census 2015-16)

② **Largest milk producer :-** India is the largest producer of milk globally.

③ **Employment :-** It offers employment to over 16% of total population of India.

④ **Diversity :-** Dairy sector encompasses all cattle, alongwith camel, goat, etc.

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• **Challenges faced by dairy sector :-**

① **Diseases in animals :-** Diseases like Foot & Mouth Disease impact the livestock & milk yield.

② **Processing facilities :-** The value addition through processing of milk products is not fully achieved due to lack of infrastructure

③ **Logistics :-** India lacks robust 'farm-to gate' infrastructure leading to wastage.

④ **Competition globally :-** Indian dairy industry faces international competition from Australia & New Zealand due to high-yielding breeds.

⑤ **Product quality :-** Dairy industry lacks standardization & international quality product

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making it less preferable for exports.

• Government Initiatives :-

① National Dairy Development Board :- It undertakes initiatives for greater growth of dairy sector & promotes research & development.

② Dairy Infrastructure Development Fund :- With ₹ 2000 crore fund to provide stimulus to dairy sector.

③ Kamdhenu Mission :- Focuses on research on indigenous breeds for higher yield & greater quality products.

④ Mega Food Parks :- It will integrate the processing facilities thus improving the export competitiveness of Indian dairy product.

Dairying is a survive sector for India that can contribute to $5 trillion economy by adequate technological development.

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14. The imperative to increase farmers' income must shift to creating value chains and must not be reliant on the MSP regime and subsidy bias prevalent in the current Indian agricultural system. Examine.

(250 words) 15

किसानों की आय बढ़ाने की अनिवार्यता को मूल्य श्रृंखलाओं के सृजन से जोड़ा जाना चाहिए और इसे वर्तमान भारतीय कृषि प्रणाली में प्रचलित एम. एस. पी. व्यवस्था एवं पूर्वाग्रहयुक्त सब्सिडी पर कतई निर्भर नहीं होना चाहिए। परीक्षण कीजिए।

Almost 90% of small & marginal farmers depend upon MSP for trading their produce, however only 10% are able to attain its benefits.

• Problems in reliance on MSP :-

① Lack of incentive :- MSP reduces incentive for farmers to take steps to improve agricultural productivity.

② Increased fiscal burden :- Burden on state exchequer is rising due to rising demands for MSP. eg. 80% over cost given for pulses.

③ Skewed benefits :- Only 10% small & marginal farmers avail MSP benefits,

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while 70% of it is appropriated by large farmers.

④ Discourages crop diversification :- High MSP mostly on wheat & rice discourages crop diversification leading to soil degradation.

⑤ Declining water table :- MSP also prevents cropping according to agro-climatic zones resulting into declining groundwater table.

• Reasons for creating value chains :-

① Greater market access :- Farmers will gain greater market access ensuring better price discovery.

② Reduce distressed sale :- Creation of logistics infrastructure like cold storage will reduce distressed sale by farmers &

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ensure better price realisation.

③ Value addition :- Access to processing facilities through schemes like Mega Food Parks will also allow value addition to agri. products.

④ Improved product quality :- Creation of value chains can allow growing products of international quality improving its export potential.

Farmers Producer Organisations, increased access to formal credit and technology adoption like AI & Big Data can double farmers' income.

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15. What are the challenges in ensuring sustainable river management in urban areas? Highlight the remedial measures that can be taken for river management with a special focus on the recently launched River Cities Alliance.
(250 words) 15

शहरी क्षेत्रों में संधारणीय नदी प्रबंधन को सुनिश्चित करने में कौन-सी चुनौतियाँ विद्यमान हैं? हाल ही में प्रारंभ रिवर सिटीज एलायंस पर विशेष ध्यान देते हुए नदी प्रबंधन के लिए किए जा सकने वाले उपचारात्मक उपायों को रेखांकित कीजिए।

Inadequate river management in urban areas has made Indian cities a locus of urban floods eg. Chennai

• Challenges in sustainable river management :-

① High population :- 38% of India's population lives in urban areas leading to huge resource demand.

② High land demand :- For greater employment creation & economic growth, constant concretization has made rivers disappear.

③ Inadequate planning :- Haphazard growth of infrastructure in urban areas leads to unsustainable river management

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④ Lack of effective administration:- Inadequate focus on river conservation by municipalities has led to its depletion.

• Remedial measures:-

① Effective implementation of EIA:- Inclusion of a comprehensive EIA during projects targeted on river-course changes should be done with adequate expertise & no post-facto approval.

② AMRUT:- The AMRUT scheme for rejuvenation & urban transformation must focus on river management & its ecological costs.

③ Living status:- Living status to rivers as done for Ganga by judiciary can be a way to protect its rights.

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(4) **Planned development :-** Projects like River Front and Ganga Ghats should be encouraged making it a source of revenue & also conserving its nature.

- **River Cities Alliance :-**

↳ A programme by Ministry of Housing & Urban Affairs alongwith World Bank.

↳ It aims to bring all the river cities together for adequate planning & sustainable use of rivers to stop its depletion.

↳ It is a voluntary alliance, that promotes cooperative federalism alongwith decentralised decision-making.

In the times of changing rainfall patterns due to climate change & frequent urban floods, sustainable river management is a necessity.

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16. Haphazard growth and poor management make the Indian cities the locus of disasters, both large and small. Comment. Also, discuss the current gaps in policies in addressing these challenges. **(250 words) 15**

अव्यवस्थित विकास तथा निम्न स्तरीय प्रबंधन ने बड़े और छोटे दोनों प्रकार के भारतीय शहरों को आपदाओं का केंद्र बना दिया है। टिप्पणी कीजिए। साथ ही, इन चुनौतियों का समाधान करने में नीतियों में विद्यमान वर्तमान अंतराल पर चर्चा कीजिए।

Around 49.8 M hectares of land in India is flood-prone & recent instances of urban flooding in Chennai show the cities' vulnerability to disasters.

- Haphazard growth leading to disasters :-

① Excessive concretization :- Lack of channels for water seepage during excessive rainfall leads to flooding. eg. Chennai

② No clear mapping :- For urban construction, leading to high-rise buildings in earthquake prone areas. eg. Buildings in Zone-4 around Koyna R.

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- **Poor mangement leading to disasters :-**

① **Wetland encroachment :-** This leads to closed channels for water drainage & hence flooding eg. Bangalore

② **Clogged drainage systems :-** Inadequate & closed water drainage systems due to plastic waste, etc. leads to disasters.

③ **Concentration in coastal areas :-** Population living along coastal areas is high making them prone to cyclonic hazards.

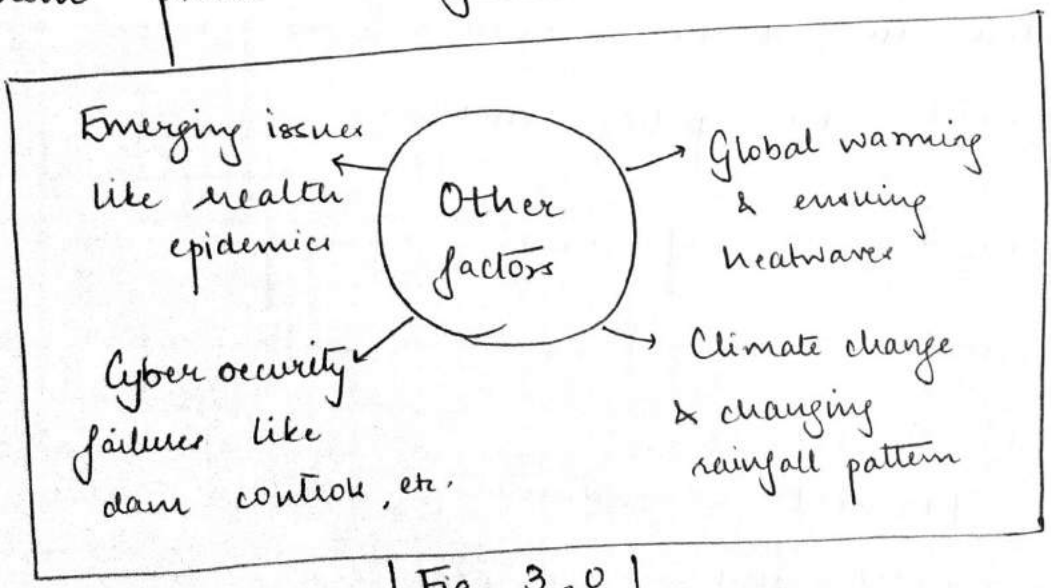

Fig 3.0

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• **Current gaps in policies :-**

① **Limited public role :-** People are the first responders, however they lack adequate knowledge.

② **Early Warning Systems :-** Not devised for all regions & only concentrated in a few. eg. Mumbai's IFLOWS

③ **Integration of Climate Change :-** Emerging issues like frequent heavy rainfalls, 6% reduction in summer rains have to be incorporated in policy making.

④ **Changed nature of disasters :-** Rising cases of heatwaves in cities needs active policy intervention

Planned & inclusive development of cities with environmental sustainibility can ensure disaster resilience.

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17. Discuss the extent of the problem of narco-terrorism in India. What measures have been taken by the government to counter and control this problem? **(250 words) 15**

भारत में नार्को-आतंकवाद की समस्या के प्रसार पर चर्चा कीजिए। इस समस्या से निपटने और नियंत्रित करने के लिए सरकार द्वारा क्या उपाय किए गए हैं?

Narco-terrorism refers to the nexus between drug traffickers & terrorists to inflict serious threats to national security.

Fig 4.0

- **Extent of narco-terrorism in India :-**

① India has one of the world's largest opiate-consumers, acc to World Drugs Report, 2022.

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② **Transit hub :-** India is one of the transit hubs as well as destination for heroin & hashish from Golden Crescent & Golden Triangle.

③ **Seriously affected areas :-** North-East India, North-west India, especially Punjab & West India, especially Mumbai.

• **Measures taken by government :-**

① **SIMS :-** Seizure Information Management System for large seizures.

② **Demonetisation :-** To check the financing to terrorist activities by ~~delegad~~ demonetising existing currency.

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③ Strengthened border security :- By technology adoption, strengthening coastal security, surveillance. eg. BOLD - QIT

④ Suggestions for improvement :-

① Regulate Dark Web :- Dark Web is source of multiple illicit drug transactions and also a source for terrorism funding

② Global acknowledgement :- Global convention acknowledging & addressing narco-terrorism is needed by clearly identifying the link between the two.

The vicious cycle of terrorism & organised drug crime needs to be stopped & active intervention from State as well as UN office on Drugs, FATF is needed.

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18. The dark web can be an ideal platform for several criminal and terrorist activities. Discuss with examples. Also, suggest measures to tackle the misuse of dark web. **(250 words) 15**

डार्क वेब कई आपराधिक और आतंकवादी गतिविधियों के लिए एक आदर्श मंच हो सकता है। उदाहरण सहित चर्चा कीजिए। साथ ही, डार्क वेब के दुरुपयोग से निपटने के उपायों का सुझाव दीजिए।

Dark Web is a part of the Internet that is not publicly accessible & is only available to specific users due to its protected nature. eg. TOR (Tomato-Onion Ring) web.

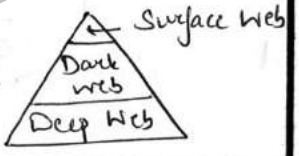

Fig 5.0

- Dark Web - platform for criminal & terrorist activities (-Reasons) :-

① Heavily protected :- As it is not easily accessible & does not have indexed websites, it is harder to track & detect.

② Beyond government surveillance :- Nature of transactions is cryptographically secured

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& hence, difficult to decode.

- **How is Dark Web used :-**

① **Giving 'supari' :-** Dark web is used for giving killing orders for someone in exchange for money. eg. Honour killings

② **Platform for radicalisation :-** Radicalisation of ~~yo~~ disgruntled youth for terrorist activities is done using Dark web.

③ **Planning of attacks :-** Attacks like terrorist attacks, lone-wolf attacks are planned here, bypassing government radar.

④ **Arms & Drugs Smuggling :-** Trading of illicit arms, drugs, forfeited currency is

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easily done through Dark Web.

⑤ **Cyber Frauds :-** Duplicate products at cheap prices traded through Dark web, that can potentially be used as spyware.

• **Measures to tackle misuse :-**

① **Develop cyber expertise :-** Train cyber experts who can break into Dark web & practice ethical hacking to improve surveillance.

② **Identify trading channels :-** Channels of arms smuggling, etc. can be identified through continuous State presence on Dark web.

③ Global cooperation with global network of cyber experts can be developed to tackle ~~in~~ within country as well as cross-border crimes & terrorist activities.

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19. What is catalysis? Highlight the characteristics of catalysts. Also, elaborate why catalytic reactions are important for human beings. **(250 words) 15**
उत्प्रेरण क्या है? उत्प्रेरकों की विशेषताओं पर प्रकाश डालिए। साथ ही, उदाहरण प्रस्तुत करते हुए समझाइए कि मानव के लिए उत्प्रेरकी अभिक्रियाएं क्यों महत्वपूर्ण हैं।

Catalysis refers to a process that is used to control the pace of a chemical reaction i.e to quicken it or slow it down, & achieve the desired product.

- Characteristics of catalysts :-

① Neutral :- It does not disrupt any impact on the product i.e maintains the composition of product.

② Controls pace :- It only affects the speed of the reaction, thus affecting the consumption of the source material.
eg. Nuclear fusion using moderator to

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reduce quick consumption of U^{233}.

③ **Temperature :-** Catalysts depend upon temperature for the role they play in a reaction.

- **Importance of catalytic reactions :-**

① **Industry :-** Prove as an aid in commercial manufacturing of certain products

② **Health :-** Carbonic acid maintains body's pH balance while digesting food.

③ **Medicines :-** Some Chemical reactions are not possible without catalysts as they act as a stimulus.

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- **Advent of organocatalysts :-**

Recently, Nobel Prize in Chemistry was awarded for inventing organocatalysts i.e they ~~do not are~~ have organic origin & do not produce metal waste.

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20. Electric mobility offers solutions to the problems associated with climate change, growing fuel prices, and urban transportation issues. Discuss in the context of India. **(250 words) 15**

इलेक्ट्रिक मोबिलिटी जलवायु परिवर्तन, ईंधन की बढ़ती कीमतों और शहरी परिवहन के मुद्दों से जुड़ी समस्याओं का समाधान प्रदान करती है। भारत के संदर्भ में चर्चा कीजिए।

Faster Adoption & Manufacturing of E-Vehicles (FAME) scheme ~~of~~ government aims to increase the production & use of electric vehicles.

• Electric mobility - a solution :-

① Climate change :-

(a) Reduced GHG emissions :- It eliminates hazardous emissions of NO_x, CO_x made by fossil fuels like petrol & diesel.

(b) Alternative to coal :- India's phasing out of coal can be helped replacing it with electric mobility solutions.

(c) Reduced global warming :- It can prevent

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increase in temperature due to emissions by vehicles.

② Growing fuel prices :-

(a) Reduce India's import bill :- India's dependence on global oil resources can be reduced by moving to electric mobility.

(b) Accessibility improvement :- Electric mobility shall also allow lower class people to buy vehicles due to reduced dependence on fuel prices.

③ Urban transportation :-

(a) Reduced noise pollution :- Electric vehicles do not produce as much noise as petrol & diesel vehicles.

(b) Increased efficiency :- Of urban transportation due to electric vehicles. eg. Delhi's Electric Bus

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• Persistent challenges with electric mobility:

① Dependence on lithium :- India is dependent on china for Li batteries used in electric vehicles.

② Support infrastructure :- Charging stations, battery swap, etc. is still not available according to the demand.

③ High initial cost :- Initial cost of e-vehicles is as high as ₹1,00,000 for 2-wheelers making it unaffordable.

Thus, electric mobility should be supported with relevant infrastructure, public awareness & greater affordability to prove to be an effective solution.

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